TECHNOLOGY DEPT.

NATIONAL PETROLEUM NEWS

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BULLETINS

REFINING COSTS

WASHINGTON—Office of Price Administration is considering asking U. S. Tariff Commission to make a survey of petroleum refining costs for use in connection with OPA's determination of refined product prices, according to reports in oil circles here.

OIL BURNER BAN

WASHINGTON—An order has been drafted to prohibit the manufacture of residential oil burners after May 31 and to permit production of other types only to fill orders bearing an A-10 or higher rating, according to a War Production Board spokesman who said the order probably would be signed and issued on April 15.

OPC May Prohibit Domestic Fuel Oil Contract Renewals

WASHINGTON — OPC may act on recommendation of P.I.W.C. and request that contracts to supply domestic fuel oils go without renewal, according to reports here. Also, state highway departments may be asked by OPC to cancel roadbuilding programs requiring use of asphalt. Page 3.

Synthetic Rubber For Public Urged

WASHINGTON — Synthetic rubber capacity of 300,000 tons yearly, to provide tires for civilians, is urged by P.I.W.C. (Page 3). At same time, Congress gets bills providing 400,000 tons capacity over and above present 700,000-ton goal for military use. Page 4.

Refining Edition

ACS Plans Talks On Oil Synthesis

The important role of petroleum refining in producing many essential wartime products by synthetic methods will be discussed by the Petroleum Division of the American Chemical Society at the A. C. S. meeting in Memphis. Page R-115.

Fewer Compounds In Aviation 'Gas'

New processes for manufacturing aviation gasoline are based on selecting hydrocarbons of high-octane value which provide for control of combustion for maximum power output of engines. Trend is toward producing fuels of smaller numbers of hydrocarbon compounds. Page R-120.

Low Octane Tested

Engine tests conducted at Purdue University reveal effects of ignition timing and anti-knock quality of fuel on performance. Page R-117.

Needed:

Anti-Trust Protection

As the war progresses, the more involved becomes the oil industry's co-operative activity—including pooling of transportation facilities, products and even profits accruing from OPA-approved price advances—and thus the more important becomes the industry's need for protection from an "utterly unpredictable" anti-trust policy, Editor Platt asserts. Page 9.

Refining Industry Faces Realignment

WASHINGTON—Oil refining faces realignment to meet transportation problems and new war demands. Program is expected to include changes in sources of supply, yields and markets. Effects estimated by P.I.W.C. for 1942. Page 17.

ODT Urged to Ban Short Rail Hauls

WASHINGTON — For-hire truckers in East suggest shipping of oil by rail direct to ocean terminals instead of dispatching individual tank cars to destinations. Page 26.

WPB Pares Quotas Under Order L-70

WASHINGTON — Limitation Order L-70 is amended to require a deeper cut (to two-thirds of the base period with seasonal adjustments) in gasoline deliveries to stations in "curtailment areas". Page 3.

Oil Transportation 'Critical'—P.I.W.C.

WASHINGTON — Economics committee of P.I.W.C. reports transportation outlook 'gloomy' on East Coast. Expected non-tanker shipments are estimated at 845,000 bbls. daily by end of 1942 with demand at 1,300,000 bbls. Page 21.

NEWS BRIEFS

House may hold hearings on nation-wide 7-to-7 curfew. Page 3.

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Michigan jobbers meeting hits anti-trust suspension. Page 15.

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Oil state regulatory authorities meet with OPC. Page 12, 13.

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WPB limits liquefied petroleum gas installations. Page 18.

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Wax price hike allowed to compensate for higher container cost. Page 6.

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P.I.W.C. to study wartime program for asphalt industry. Page 18.

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OPC gets recommendation for 2 pipelines to East Coast. Page 21.

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Texas sets trucking rates at same level as rails. Page 21.

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Financial aid for small producers urged by Sen. Connally. Page 12.

* * *

Producers urge drilling ban to get steel for pipelines. Page 13.

* * *

Kill lube tax, don't hike it. House committee urged. Page 7.

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Bureau of Mines names Wilhelm to head new Pennsylvania lab. Page 6.

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Rawleigh Warner | C. B. Watson | Henry M. Dawes | R. W. McIlvain | L. S. Wescoat

How Behind-the-Lines Strategy is Planned

Major decisions affecting wartime operations of The Pure Oil Co. are the outcome of meetings like this.

President Henry M. Dawes, as in this life-like photograph, calls his chief executives together, takes his chair at the head of the conference table—and another tough problem is picked apart, analyzed and solved. Sitting with President Dawes usually are Rawleigh Warner, vice-president and treasurer; L. S. Wescoat, vice-president and secretary; and Vice-Presidents C. B. Watson and R. W. McIlvain. Other chief executives of Pure whose counsel is a weighty factor in deciding the company's policies and operations are B. G. Dawes, chairman of the board, and N. H. Weber, vice-president. Both were absent when this photograph, which NPN labeled "too good to withhold from publication", was taken.

Military strategy of winning a war is the role of admirals and generals and their staffs. But equally important is the strategy of the men supplying war materials to the men behind the guns. This strategy is being planned in executive meetings of oil companies throughout the nation every day. Decisions made today by Oil Management—the oil men, big and little, in whose hands lies the fate of this huge industry—will be reflected in the final story of World War II.

NATIONAL PETROLEUM NEWS

VOLUME 34 WEDNESDAY, APRIL 15, 1942 NUMBER 15

WPB Reduces 'Gas' Quotas

(See text on p. 39)

NPN News Bureau

WASHINGTON—Curtailment of gasoline deliveries to 66.6%, effective April 16, in the East and Pacific Northwest was announced a week ago but so far there has been little reaction.

The few protests received by Office of Petroleum Co-ordinator have been from dealers with very small gallonage who feel that the added curtailment will be about enough to shove them out of business.

Truck Stations Protest

But there have been renewed protests from stations selling a large volume to truckers to whom they are entitled to sell 100% of such preferred customers' requirements.

Trucker stations are complaining that because they are *not* entitled to reimbursement of their quotas for gallonage sold to preferred consumers, they cannot supply their customers' requirements from the 80% quota, much less the 66.6% allotment effective April 16. Some stations have as much as 95% and even 100% of their gallonage in truck business.

OPC still has not found a way for trucker stations to take care of all their customers. Only thing such stations can do, it was suggested, is to let their customers go to some other station.

One station operator plans to ask OPC if it is okay for him to lease a tank and pump at his station to a trucking company taking several hundred gallons daily and let the supplier fill the tank and bill the trucker. Station operator would have nothing to do with the deal, except collect a rental for use of his facilities.

Must Post Hours

New amendment to L-70 requires stations in the curtailment areas to post their hours of sale to non-preferred customers. Such sales are limited to a total of 12 hours in any one day, 72 hours in any week. Posted hours must remain in effect for at least 7 days.

All sorts of staggered hours arrangements have been reported, including one operator who keeps his station open 15 minutes out of every 45 minutes, 24 hours a day, 7 days a week.

Such extreme cases have drawn protests, but apparently are "legal". OPC is inclining toward an interpretation that the hours must be "reasonably" consecutive (but the word "reasonable" is in itself indefinite, so such a ruling might be difficult to apply).

May Set Hearings On 7-to-7 Measure

NPN News Bureau

WASHINGTON—A drastic, nation-wide reduction in gasoline deliveries—as much as 30%—is forecast by Congressman Weiss (Dem), Glassport, Pa., sponsor of legislation for compulsory 7-7 closing of filling stations over the entire country.

On the basis of conversations with members of staff of Office of Petroleum Co-ordinator, he told NPN that he thought such a reduction would be necessary by late summer, possibly by July. Figures shown him, he said, indicate the situation will be "acute" this summer.

Rep. Weiss said he expected a favorable report from OPC on his bill which will be given hearings as soon as the report is received. Value of the bill, he said, is to make station closings uniform. Bill provides OPC would issue "an order" to close the stations.

Dealers Ask Utah Governor For 7 to 7 Closing Order

Special to NPN

SALT LAKE CITY—A wartime ruling for closing service stations from 7 p.m. to 7 a.m. was formally requested of Gov. Herbert B. Maw under powers of the State Defense Act by the Utah Assn. of Petroleum Retailers, Inc., at the fifth annual convention April 9.

Gov. Maw immediately replied that his emergency powers would probably enable him to declare a gasoline curfew, but he would issue a ruling only if all the big petroleum dealers favored it.

Maritime Insurance Bill Signed by Roosevelt

NPN News Bureau

WASHINGTON — H. R. 6554, which permits Maritime Commission to write insurance covering movement of all commodities at any rate determined proper, was signed by President Roosevelt on April 11, White House said April 14.

OPC May Prohibit Domestic Fuel Oil Contract Renewals

NPN News Bureau

WASHINGTON—Office of Petroleum Co-ordinator is expected to act shortly on recommendations by Petroleum Industry War Council that steps be taken to reduce asphalt consumption and eliminate fuel oil contracts in the curtailment areas—both because of the transportation situation.

Biggest consumers of asphalt are the state road-building programs, so OPC may ask that projects using asphalt be suspended for duration of the emergency throughout the U. S. to release tank cars now hauling this product.

With fuel oil supply situation so critical, OPC may call upon oil companies in the East and Pacific Northwest to cancel all existing contracts for home heating and not to write any new ones. Contracts for industrial fuels would be permitted.

Slip Covers for Tires?

NPN News Bureau

LOS ANGELES—In a last-ditch effort to keep cars on the road, a large California oil company is extensively experimenting with the idea of making covers to go over worn out tires. Covers being tried are made from all sorts of materials—ranging from plastics to canvas impregnated with oil.

Fuel Oil Use Restricted In British Columbia

Special to NPN

OTTAWA—Canadian government has ordered 890 owners of industrial plants and commercial institutions in British Columbia to switch from fuel oil to coal. Delivery of fuel oil to buildings will be discontinued on June 1, and after June 30 delivery of fuel oil for use in industrial processes will be forbidden.

Fuel oil use in homes has not yet been restricted. The order hits industrial heating and steam plants, schools, municipal and other buildings.

Synthetic Rubber for Civilian Use Urged by Oil Industry War Council

NPN News Bureau

WASHINGTON—If the Allies floated to victory on a sea of oil in World War I, they may bounce to victory on synthetic rubber in World War II—if the Petroleum Industry War Council has its way.

Supplementing the government-industry program of 700,000 tons of synthetic rubber yearly, the council recommended at its April meeting here last week that an additional 300,000 tons be made available to keep civilian cars rolling. In addition, P.I.W.C. is determined that:

—"**Rationing** of all non-essential consumption is immediately necessary for the East Coast and other areas normally served by tanker-borne petroleum supplies."

—**Pipeline construction** from east Texas to New York-Philadelphia area as well as other pipeline projects to supply East Coast should receive prompt consideration (*see p.* 21).

—**Gasoline sales** at service stations in Districts 2, 3, 4 and sections of District 5 not covered by Limitation Order L-70 should be limited to 72 hours daily and not over 84 hours weekly.

—**Additive curb** (Recommendation No. 40) should be amended because of "tight" situation on containers and dispensing equipment (*see p.* 18).

—**Drum deposit** should be charged as a separate item on same invoice for the product sold and time extension from 3 months to 6 months for emptying drums should be granted to rural customers.

—**Asphalt program,** designed to conserve transportation, should be studied by all 5 districts for report back at next P.I.W.C. meeting (*see p.* 18).

In adopting "rationing" report of its petroleum economics committee, P.I.W.C. did so with

the reservation that "rationing in each district is not to become effective until Office of Petroleum Co-ordinator takes action after receiving and considering each district's recommendation".

Rubber Discussion Headlines Meeting

As P.I.W.C. met at same time as Secretary of Commerce Jesse Jones was testifying on synthetic rubber situation before Truman Committee and as Rubber Co-ordinator Arthur B. Newhall addressed the War Council, importance of subject almost dominated the April meeting. P.I.W.C. resolved:

"The appropriate Federal agencies be urged to take immediate steps to provide the money and allocate the construction materials necessary to provide for the annual production of a minimum of 300,000 tons of synthetic rubber for civilian use."

At close of the council's second-day meeting, W. S. Farish, New Jersey Standard, said P.I.W.C. would appoint a committee, representing the entire oil industry, to study Butyl rubber problems in an effort to speed up government's synthetic rubber program.

Sees Morale Hit

P.I.W.C. explained that government's present program calling for 700,000 tons synthetic rubber yearly provides only for military and related usage here and abroad. As it was felt that "civilian morale will be injured if passenger car usage is restricted more than is fundamentally necessary to meet essential requirements", an additional 300,000-ton yearly output was recommended.

P.I.W.C.'s recommendation on a 12-hour-day, 84-hour-week in Districts 2, 3, 4 and 5, provided for motor fuel deliveries at any hour to preferential customers, such as doctors, commercial vehicles and the like. It was explained that this recommendation would conserve electric power, help to solve a labor shortage problem and enable station personnel to lead "a more normal home life."

Lower Insurance Urged

The oil council favored asking Mr. Ickes to inform Maritime Commission and OPA of "the necessity of the Maritime Commission writing maritime insurance for tankers at those rates existing prior to or immediately subsequent to the entry of the United States in the present war", in accordance with H.R. 6554. This bill is now at White House for presidential approval.

At May meeting of P.I.W.C., marketing committees of Districts 2, 3, 4 and 5 are to study provisions of Limitation order L-56 (*NPN March* 18, *p.* 8) and Recommendation No. 39 (*NPN April* 8, *p.* 6) and to report on fuel oil supplies in their respective areas.

P.I.W.C.'s container sub-committee recommended that:

"Sales of 1-quart and 5-quart cans be changed to provide for the sale of only 6 one-quart cans to each 5-quart can which means approximately 45% of canned oil volume would be in 5-quart cans."

'Use Black Metal'

This recommendation also provides that "all cans should be made out of black metal instead of tin plate and terne plate". Moreover, elimination of 5-lb. grease cans is favored as well as elimination of cans for specialty products, "inasmuch as War Production Board Order M-81 already prohibits the manufacture of cans of less than 1-quart capacity".

In recommending the above changes, P.I.W.C.'s national marketing committee said that numbers of large and small marketers are disregarding drum deposits, and it was this committee's opinion that all companies should abide by the petroleum co-ordinator's recommendations, or "openly state to him that they cannot go along with his recommendations".

District 2 felt that additional steel could be saved by further reducing use of cans.

Legislation Introduced to Provide Synthetic Rubber for Civilian Use

NPN News Bureau

WASHINGTON—Objective of two bills introduced in Congress—one in the Senate and one in the House—is to provide synthetic rubber for civilian needs, over and above the 700,000 tons scheduled and already earmarked for military consumption.

Identical bills were introduced by Sen. James E. Murray, Mont., and Rep. Alfred Beiter, N. Y.

Substance of the proposed legislation is the authorization of Federal Works Agency to build enough synthetic rubber plants to produce 400,000 tons a year. A U. S. Rubber Authority would be created to operate the plants.

Murray Hits Delay

Rep. Beiter said the intent of the program is to provide synthetic rubber for civilian needs and Sen. Murray declared that there has been too much delay in synthetic rubber already.

"Present estimates which I have carefully studied," Sen. Murray said, "have convinced me that it is folly to rely upon the present totally inadequate projects to supply rubber even for vital military needs. . . The outrageous trafficking with the enemy by giant oil companies who have throttled our own artificial rubber industry through a patent monopoly have finally convinced me that we can no longer rely upon private industry to furnish us with the rubber we need to assure our national existence."

Meantime, exact date for resumption of Truman Defense Investigating Committee's rubber hearings is problematical, a committee aide said, but probably will be sometime during week of April 20. Witnesses have not been chosen yet, it was said, but rubber company executives probably will appear.

Withhold Synthetic Exports

The Truman Committee heard Secretary of Commerce Jesse Jones hint on April 7 that steps are being taken to prevent the exportation of synthetic rubber, or at least keep exports to a minimum.

Transcript of the hearing showed that Sen. James M. Mead, N. Y., suggested Mr. Jones bring to the attention of the proper agencies that the "exportation of this synthetic rubber should be reduced to a minimum."

"I don't think there is any doubt in the world but that that matter is being insisted upon and taken care of by the proper authorities," Mr. Jones replied.

Mr. Jones said the oil company refineries would be owned by the government, but operated by oil companies on a fee basis of 69/100 of a cent a lb., graduating downward on quantity to a third of a cent a lb.

Testifying that the U. S. crude rubber stockpile would be infinitely greater if the International Rubber Regulation Committee had not restricted the export of rubber in an effort to maintain prices, Mr. Jones disclosed that Britain has a stockpile of less than 100,000 tons, because her officials did not think the rubber supply would be destroyed.

Jones Tells Why Rubber Stockpile Isn't Larger

Federal Loan Administrator Jesse Jones told hearing of Truman defense investigating committee that withholding of exports to U. S. by International Rubber Regulation Committee had prevented building up of rubber stockpile

Humble's Legal Hopes Fade In Texas Chain Tax Case

Special to NPN

AUSTIN—The Humble Oil Refining Co., it appears, is going to have to pay off a judgment to the state of $906,138 for back taxes under the Texas chain store tax law.

The Texas Supreme Court has declined to review the findings of a circuit court, which held against Humble, and court observers were of the opinion that Humble is about at the end of its legal rope. Lawyers doubt that there is any federal law involved, hence no avenue is open to carry the case beyond the state courts.

NPN
Reports from WASHINGTON

News for ALL branches of the Oil Industry

NATIONAL PETROLEUM NEWS, Washington Bureau, 803-805 National Press Bldg. ● Telephone: NAtional 3477 ● Staff: Warren W. Burns, O. H. Knight

Rationing Still a Hot Topic, But 'Mum's the Word' at OPA

WASHINGTON—If Petroleum Co-ordinator Ickes decides that the red tape of gasoline card rationing is unnecessary in view of tire conservation and the gasoline curtailment program, he may say so to Price Administrator Henderson.

Such a move by the co-ordinator would be contingent on the gasoline curtailment program—War Production Board's L-70—continuing to work smoothly. And it "seems to be working surprisingly well", Mr. Ickes said at his press conference April 9.

"Very, very few complaints", was the comment of Deputy Petroleum Co-ordinator Davies, also at the press conference.

"If this curtailment program works satisfactorily," Mr. Ickes said, "we may go to Mr. Henderson and tell him that we see no occasion for card rationing. Card rationing is a cumbersome process. It is difficult to make it work effectively."

OPA 'Frankly Puzzled'

It is also difficult to decide, according to OPA gasoline rationing officials, how to start a gasoline card rationing program. Right now, OPA's gasoline rationing staff, from minor officials to Joel Dean, division chief, are "frankly puzzled", as one source expressed it.

Inter office and outside meetings are being held daily, in Washington and elsewhere to decide just what to do when and if it's decided to give motorists a gasoline card rationing system.

There's some feeling in Washington that inasmuch as OPA has set up a gasoline rationing section, with approximately 50 employes so far, that it will be "necessary" to institute a gasoline card rationing system. Right now, the color and size of such cards is a preoccupying subject—and "mum" is still the word as to where this card rationing plan stands.

Printers Called In

However, it is known that no contracts with any printers were signed as of April 11, but conferences with printers were going on.

Gasoline card rationing is "Mr. Henderson's responsibility, not ours", says Mr. Ickes. "But we are co-operating with him". Just how much co-operation the Office of Petroleum Co-ordinator is giving is another "mum" subject.

Presumably, card rationing of gasoline would begin in the present curtailment areas (East Coast and Pacific Northwest), but OPA's plans are to be broad enough to cover the nation "if necessary".

WPB Pares Quotas Under Order L-70

Meanwhile, gasoline deliveries in the curtailment areas were cut to 66 2/3%, effective April 16, of average deliveries in December, January and February, with seasonal adjustments. *(See text of Amendment No. 1 to WPB's Conservation Order L-70 on p. 39—Ed).*

As of April 16, service station operators in the curtailment areas must "post prominently in a conspicuous place" notice of hours which they plan to sell gasoline to non-preferred customers. These hours need not be consecutive, but they must remain in effect for 7-day periods. Hours during which stations can sell to non-preferred customers cannot exceed a total of 12 daily or 72 weekly. This limitation does not apply to preferential customers, such as doctors, nurses, commercial vehicles and the like.

"Deliveries during the second half of April must be reduced proportionately in accordance with the amendment", WPB said. "Service stations and bulk containers may thus receive 80% of half their monthly quota before April 16th, and 66 2/3% of half of the quota during the remainder of the month."

Bristol, Tenn., Added

"The corporate limits of the city of Bristol, Tennessee" was added to curtailment areas, since Bristol is partly in Tennessee and partly in Virginia, WPB said.

Commenting on the one-third gasoline curtailment, OPC said:

"The War Council estimated, on the basis of a comprehensive analysis by petroleum economists and transportation and marketing experts, that the East Coast, alone, is faced with a deficiency of 81,000,000 bbls. of petroleum and petroleum products over the last 9 months of this year, or an average of 295,000 bbls. daily, even with greatly increased overland shipments. They asked, therefore, that their recommended curtailment be invoked at once as the first step in coping with this situation."

The deputy co-ordinator said that the restriction will not actually amount to one-third reduction from present use as it is based on what 1942 consumption would be under normal transportation conditions and with tires freely available. Moreover, he pointed out that as motorists have voluntarily cut down their driving, part of the gasoline curtailment has been effected voluntarily.

OPA May Ask Return Of 1%-10 Day Clause

NPN News Bureau

WASHINGTON — Restoration of the 1% discount for payment within 10 days on tank car shipments, where such provision has been eliminated since Oct. 1, 1941, is being considered by Office of Price Administration, according to reports here.

Some OPA officials have taken position that dropping of the discount provision constitutes a change in marketing practice which, in effect, is a price advance.

East, Northwest Rail Hauls Rise

Commenting on the increased tank car movement to the East coast—525,697 bbls. daily—Mr. Ickes revealed that it was belief of John Pelley, president of Assn. of American Railroads, that tank car movement to the East can't reach anticipated goal of 800,000 bbls. daily due to other heavy rail movements.

Tank car movement to the Pacific Northwest was up 20% for week ending April 4, Mr. Ickes said, but it was slow getting under way, due to reluctance of a group headed by California Standard, "I am sorry to say". But after other industry members told California Standard "what to do", conditions were changed and the California company is now co-operating, the co-ordinator said.

From another source, it was learned that the 20% increase in tank car movement to Pacific Northwest constituted an additional 12 cars in week ending April 4, or from 60 to 72 cars.

East Coast gasoline stocks increased 849,000 bbls. as of April 5 compared with a like period last year, Mr. Ickes said. At present, East Coast has 11 days' heavy fuel oil supply on hand, which would be about "normal" under ordinary transportation conditions, OPC's Research Director Edward B. Swanson said.

Conversion Saves Fuel

Conversions from oil to coal are now saving an estimated 6,000,000 bbls. yearly of heavy fuel oil, according to Mr. Ickes, who says it's hoped that 20,000,000 bbls. yearly will be saved from additional conversions now being made.

While OPC is studying possibilities of bringing more crude and products to the East Coast by pipeline (*see p. 21*), OPC has not made a further appeal to WPB for necessary steel for pipeline construction, Mr. Ickes said.

Meanwhile, Texas Railroad Commissioner Jerry Sadler's "tear-up and relay" pipeline program is still under consideration.

Container Cost Up, Wax Price Hike OK

WASHINGTON — Maximum prices for paraffin wax may be increased by the amount of the higher cost involved in using cotton bags which have replaced burlap bags because shipments of the latter from India have been stopped by the war.

According to a press release issued on April 13, this interpretation was contained in a letter sent "to a member of the paraffin wax industry" by Office of Price Administration.

OPA said that Revised Price Schedule No. 42, issued on November 21, 1941, set prices for shipments in tank cars, barrels and bags and that Paragraph (e) of Section 1335.460 of Appendix A of the schedule permits addition to maximum prices of "a reasonable charge for additional costs, if any, of the containers" used instead of the 3 specified.

Crude Stocks Off 1,440,000 Bbls.

WASHINGTON — Stocks of domestic and foreign crude, at close of week ended April 4, totaled 261,768,000 bbls., Bureau of Mines reported April 10. This compares with previous week's total of 263,208,000 bbls.

Major declines were shown in Illinois-Indiana, California, and foreign, down 419,000 bbls., 317,000 and 316,000, respectively. Stocks of Texas crude were again higher, showing an increase of 795,000 bbls. Other crude origin changes were relatively slight.

OPA Allows Kerosine Hike In Virgin Islands

WASHINGTON—A 30-day increase of 3c per gal. in maximum prices for kerosine sold in the Virgin Islands has been permitted by Office of Price Administration in Amendment No. 6 to Price Schedule 88, because the cost of kerosine in the islands has increased that much since the government of Puerto Rico ceased refunding the 3c excise tax on shipments to the Virgin Islands. Kerosine is transshipped to the islands from Puerto Rico. Amendment was effective as of April 7.

OPA Names G. W. Stocking As New Oil Price Chief

Dr. George W. Stocking was appointed assistant administrator of Office of Price Administration's fuel division, April 11, by Price Administrator Henderson. Dr. Stocking comes to OPA from Department of Justice where he has been working for approximately past 2 years. (*See story on Dr. Stocking p. 8 of this issue*).

Other OPA officials handling oil prices are: George Doffing, price executive of fuel section; Joseph H. Salmon, petroleum division unit chief; Robert Collacott, head of refined products division; Peter Jensen, business specialist on asphalt and lube and fuel oils; Dr. Walter Voskuil, research chief; Watson B. Joyes, crude oil consultant; and Harry Booth, fuel section's chief counsel.

WPB Appoints Collins

Petroleum machinery section of War Production Board's special industrial machinery branch is now headed by A. E. Collins, former assistant manager of purchases and stores of Shell at San Francisco.

Mr. Collins replaced Dr. J. T. Sanders who was named economic adviser to the farm machinery branch.

Wilhelm to Head Bureau of Mines' Lab, Studying Boost in Penn Grade Output

C. J. Wilhelm

WASHINGTON—C. J. Wilhelm, petroleum engineer formerly assigned to the Bartlesville, Okla., Petroleum Experiment Station of Bureau of Mines, will head the Bureau's new field office at Franklin, Pa.

This new branch of the Bureau's Petroleum and Natural Gas Division opens April 15.

New office will make a first-hand study of production problems of the Appalachian region and means of increasing output of Pennsylvania grade crude oil.

"A substantial increase in crude oil production in the Appalachian area during the next year will have an important bearing on the successful prosecution of our war effort", Deputy Petroleum Co-ordinator Davies commented.

Others Named on Staff

S. S. Taylor and E. M. Tignor, both petroleum engineers in the Bureau, also will be on the Franklin office staff. Mr. Taylor is a graduate of University of Alabama and has studied chemical engineering as applied to oil field problems. Mr. Tignor, now on duty at the Laramie, Wyo., Petroleum Experiment Station, is graduate of Oklahoma Agricultural and Mechanical College and has specialized in natural gas engineering problems and underground behavior of reservoirs. Other employes are to be named later.

Wilhelm from Penn State

Mr. Wilhelm is graduate of Pennsylvania State College, 1927, and has been with the Bureau since 1929. He has studied secondary stimulative recovery methods and investigated oil field brine disposal problems in Mid-Continent oil fields. He has written a number of technical papers. Recently, he collaborated on "Use of Brine in a Kansas Field for the Secondary Recovery of Oil".

Just Ask D.J. 'Information Please' For Jersey-I.G. Chemical Patents

WASHINGTON — "Any person desiring a license", royalty free, for patents held by New Jersey Standard and I. G. Farbenindustrie, (German chemical trust) and covered by the consent decree entered March 25, should apply to Jersey's New York office, says Department of Justice.

And to aid "any person" — presumably excluding enemy spies—to determine whether a particular patent is covered by terms of the decree, Justice is preparing a register containing copies of all such patents. This register is to be ready shortly and "will be available for public inspection at the offices of the Anti-trust Division, 1060 Broad St., Newark, N. J."

Herbert A. Berman, special assistant to the Attorney General in charge of Newark office, is Department's representative under the decree. Information about its provisions may be obtained from him, Justice says.

Terms of the decree require Jersey to issue licenses "royalty free during the period of the war emergency and at reasonable royalties thereafter", says Justice, for patents covered by the decree.

These patents, says Justice, include those for manufacture of Butyl, Perbunan or Buna-N or Buna-S rubbers; Polybutenese such as Vistanex or Opanol, Paraffin Oxidation, Acetylene Arc, Styrene, Acrylonitrile and Butadiene, Hydroforming, Paraflow, Hydrogenation, Methane Steam or other processes for manufacture of hydrogen, Hydrocarbon Synthesis, Methanol, the Alkacid and Claus processes and Asphalt additives.

Furthermore, other patents are available "at reasonable royalty rates", says Justice, for manufacture of ethylene glycole, acetic acid, acetic anhydride, synthetic ammonia, formaldehyde, acetaldehyde, methylvinyl ketone, monovinyl acetate, polyvinyl acetate and chlorinated butadiene.

Humphrey Heads District 5

William F. Humphrey, San Francisco, president of Tide Water Associated and a member of Petroleum Industry War Council, has been named general chairman of District 5 (West Coast) by Petroleum Co-ordinator Ickes. He succeeds A. L. Weil, who is reported to have resigned to resume private law practice.

OPC's Marshall to Talk At Commerce Meeting

J. Howard Marshall, chief counsel of Office of Petroleum Co-ordinator, is scheduled to speak on "The Outlook for Petroleum Products" at the thirtieth annual meeting of the Chamber of Commerce of the United States, April 27-30 in Chicago. Ordinarily, this organization holds its meeting in Washington.

Refinery Operations

(American Petroleum Institute figures in barrels of 42 gallons. Figures are U. S. totals and are on a Bureau of Mines basis. Breakdown by districts will be published in April 22 NPN.)

	Week Ended Apr. 11, '42	Week Ended Apr. 4, '42	Week Ended Apr. 12, '41
Crude runs to stills (Da. avg.)	3,518,000	3,515,000	3,664,000
Gasoline production at refineries including natural blended	10,734,000	11,180,000	11,951,000
Finished & unfinished gasoline stocks	104,580,000	105,149,000	98,110,000
Gas oil & distillate stocks	30,302,000	31,231,000	29,378,000
Residual fuel oil stocks	82,526,000	82,455,000	93,516,000

Kill Lube Tax, Don't Up It, House Tax Committee Urged

WASHINGTON — Instead of increasing the Federal lubricating oil tax 122% as proposed by the Treasury Department, Congress should eliminate the tax entirely, Joseph B. Keller —representing the American Petroleum Industries Committee—told the House Ways and Means Committee on April 13.

Substance of Mr. Keller's statement was that the cost of the war would be increased by raising the lube tax from 4.5c to 10c per gal., since industry is by far the greatest user of lubricating oils.

Automobile, tire and gasoline rationing, he contended, will reduce automobile movement "to a minimum" with the result that cars operating during the emergency will be essential cars "put to essential uses." The higher taxes will only increase the cost of services rendered to the government, he said as he added: "They (the taxes) are highly inflationary and therefore undesirable."

Mr. Keller—also representing the National Petroleum Assn., Pennsylvania Grade Crude Oil Assn. and Western Petroleum Refiners Assn.—also declared that lubricating oil has become "an absolute war necessity," that the burden of the taxes "will fall upon the government itself," and that some heavy lubes would be taxed at 250% of their sales value while others would be taxed at the rate of 100% of sales value.

Would Use Cheaper Lubes

Pointing out that automotive and refinery engineers have worked hand in glove in developing high-power engines, he said the inclination of the customer, faced with higher taxes, would be to use cheaper, inferior grades of oil with the risk of damaging the engine.

On this point of automotive maintenance, A. M. Green, Jr., President of the National Council of Private Motor Truck Owners, filed a statement with the committee in which he said truckers should now use "more and better" lubricants.

As to the Treasury's proposal to double the Federal gasoline tax—raising it from 1½ to 3c per gal.—Mr. Green declared that the greater portion of gasoline used now is in connection with the war effort.

Effect of the higher gasoline tax on truckers was discussed by John V. Lawrence, General Manager of American Trucking Assns., Inc., who said that the practical result would be a "special tax upon one form of transportation" without a commensurate levy upon railroads.

LaFollette Patent Charges Denied by Jersey Company

WASHINGTON — A dispute between Sen. LaFollette, Wis., and Standard Oil Co. (N. J.) marked the opening day of hearings by the Senate Patent Committee on Senate Bill 2303 which would make licensing of war patents compulsory.

In an opening statement, Sen. LaFollette—co-sponsor of the bill—declared that the Standard-I. G. Farbenindustrie agreement "effectively prevented" synthetic rubber development in this country and that all the consent decree did was to allow the company to hold I. G.'s patents until the war is over.

Jersey Issues Denial

"Untrue," the company quickly responded in a formal statement issued later in the day.

Agreements with I. G. for exchange of patents form the very basis of synthetic rubber development in this country, the company said. In fact, Standard added, of the 700,000 tons of synthetic rubber to be made under the current program, 590,000 tons will be buna and 60,000 will be butyl, both synthetic rubbers predicated on developments made on the basis of patents and processes purchased under the agreements.

"It seems to me," said Sen. LaFollette, "that the Standard Oil consent decree is a real victory for the Standard Oil Co. The record shows that I. G. Farben selected Standard Oil to handle its patents in case of a war. All the consent decree does is to guarantee that Standard Oil will hold those patents for I. G. Farben with an immunity against interference granted by the decree, until the day when Standard Oil can render an accounting to I. G. Farben, and return the patents."

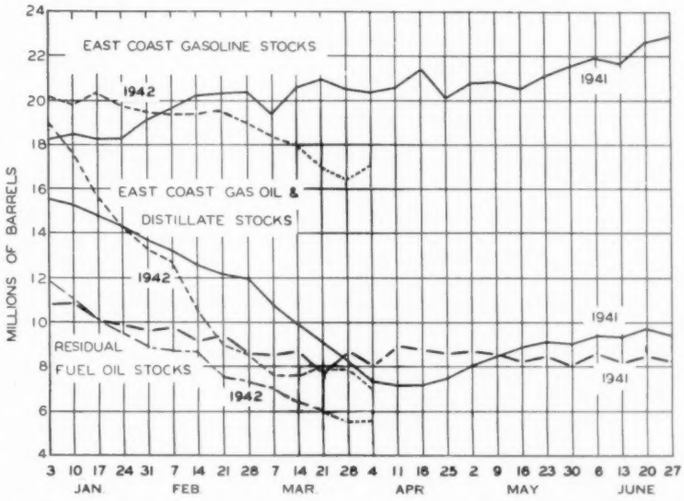
That statement, Standard said simply, "also is not true."

Bill Explained

Briefly, the bill on which hearings are being held provides that the President, upon finding that the manufacture of any article is necessary for prosecution of the war, may grant a license under any patent to any person and that a "reasonable royalty" is to be paid.

Synthetic rubber will come up during the hearings, but the exact date has not been set. New Jersey Standard has been issued a subpena summoning "pertinent documents for the consideration of the committee," Sen. Bone, Dem., Wash., said in a statement.

East's Residual Stocks Rise Slightly



East Coast's stocks of residual fuel oils increased 98,000 bbls. in week ended April 4, according to American Petroleum Institute figures, but a 964,000-bbl. drop in gas oil and distillate fuel, despite an 849,000-bbl. rise in gasoline inventories, pulled total stocks of refined products in the Atlantic coast area down another notch

N. P. A. Makes Changes In Meeting Program

WASHINGTON — Late changes in National Petroleum Assn.'s program for Cleveland meeting, April 16 and 17, move talk by Wright Gary, OPC refining director, to Thursday afternoon and switch symposium on the automobile industry and rubber situation to Friday morning.

Thursday morning meeting of the traffic and transportation department will hear a talk by A. V. Bourque, ODT tank car consultant, and also discussions of demurrage charges and private truck regulation.

Meeting also Thursday morning, the standards and tests department will hear off-the-record talks by Capt. J. H. Fitch, U. S. A., on Army fuels and lubricant specifications; Lieut. H. F. Galindo, U. S. N., on the Navy's petroleum problems; and Hugh Hemmingway (Kendall) on engine testing.

Dr. John W. Frey, OPC marketing director, is scheduled to talk at Thursday afternoon session.

Washington Personalities

Dr. G. W. Stocking, Educator, Trust Buster, Labor Mediator, Is Newly-Appointed Chief of OPA's Oil Price Division

Regulating oil prices is a long step from teaching industrial subjects to the Igorots, fierce Luzon tribe which recently emulated their head-hunting ancestors in a decapitating sortie against the Japanese invaders of the Philippines.

But the career of George Ward Stocking, Austin, Tex., spans these two—and many other—widely-varied activities.

Dr. Stocking has just been appointed as assistant administrator of the Office of Price Administration, in charge of the Fuels Division. In this post he will have supervision over the oil industry's price structure, from producing well to filling station pump.

No stranger to Washington, Dr. Stocking was chairman of the Petroleum Labor Policy Board under Secretary of Interior Ickes during NIRA code days.

Dr. George Ward Stocking

And during the past 2 years, he has been with the Department of Justice's Anti-Trust Division working on oil and other cases, including the New Jersey Standard-I. G. Farbenindustrie case in which the Jersey company signed a consent decree. (*NPN April 1, p. 3*)

Formal announcement of Dr. Stocking's appointment to the Fuel Division was made April 11, at which time OPA described him as "an outstanding specialist in the oil industry".

Holds Many College Degrees

Born Sept. 24, 1892 at Clarendon, Tex., he was graduated from Clarendon College in 1910 and took his B. A. at University of Texas in 1918. In 1921, he took his M. A. at Columbia University and his Ph. D. there in 1925.

From 1915-16, he was with Bureau of Education in the Philippines and superintendent of Public Schools in Clarendon, Tex., 1918-19. In 1919-20, he worked in Fort Worth with the Empire Gas and Fuel Co.'s geological department and from 1921-23, he was an economics professor at the University of Vermont. Later, he held similar positions at Dartmouth and Texas universities.

In 1924, he won the Hart Schaffner and Marx $1000 prize in a national competitive essay contest. Other literary pursuits include his position as co-editor of the "Southwestern Political and Social Science Quarterly", which he held from 1926-31. He is also author of "Potash—A Study in State Control". In addition, the OPA announcement said, he "has written many papers and articles for various publications, principally on coal and oil".

Dr. Stocking spent a year (1928 and 1929) in Germany and France "studying the potash industry and Germany's experience in regulating industry", according to University of Texas public relations department.

Two years later, the Carnegie Endowment for International Peace sent him to Central Europe to study economic conditions. In 1932, he spent 8 months in Mexico on a Guggenheim Foundation Fellowship, occupied in oil research.

About that time, also, he wrote "The Oil Industry in the Competitive System", published by Houghton, Mifflin Co.

Advised on Labor Relations

In 1933, he was technical advisor to the Labor Advisory Board and a member of the Consumers' Advisory Board of the NIRA. During 1934-35 he was on the Petroleum Labor Policy Board.

In 1935-36, he was chairman of the National Longshoremen's Mediation Board and during 1937-38 was a member of the Advisory Council of the Social Security board. In 1939, he served as a neutral member on the arbitration board for the Trainmen Brotherhood and the Sacramento Northern Railroad in San Francisco.

In August, 1940, he was granted leave of absence from Texas University to join the National Defense Advisory Commission in Washington, and at that time explained that his job would be to "work up data on what we have and would need in the way of production in case of military emergency or in a defensive war".

Dr. Stocking is married and has 3 chidren. Austin, Tex., is his home.

The EDITOR'S Page

Readers comments and opinions will be much appreciated by—WARREN C. PLATT, NPN's Editor and publisher, Penton Building, Cleveland, O.

Oil Warrants Protection in Its War Effort

THE further we get into this war the more pressing becomes the need for the oil industry to have full legal protection against the utterly unpredictable New Deal anti-trust policy.

Through absolutely no fault of its own, the oil industry now finds itself, because of the country's war needs, forced into perhaps the closest relationships in America's industrial history. These relationships, without the sanction of war necessity, by any fair interpretation of the anti-trust laws would undoubtedly be declared illegal by any court.

These relationships that, sooner or later, practically all oil companies, big and little, will be involved in are:

—Pooling of all tankers,
—Pooling of all tank cars,
—Pooling of a large number, if not the vast majority, of oil industry tank trucks and truck transports,
—Pooling of terminal and much bulk plant equipment,
—General exchange of all petroleum products,
—Joint effort in allocation of products during shortages,
—Pooling of costs due to shortages and pooling of price advances to cover those shortages and the apportionment of the extra money collected from the public,
—Pooling of patents and technical knowledge and all efforts for the production of products for synthetic rubber, aviation gasoline and toluene for explosives.

This may prove a short list of co-operative oil industry effort for the successful prosecution of the war.

The danger to the industry in carrying on these efforts lies in several directions:

1—All of the "approvals" of oil industry action so far by the Attorney General and his assistant in charge of the Anti-Trust Division are qualified so that at any time this Department of Justice(?) can "change its mind" or can "discover new evidence" it can then institute proceedings.

2—What the Department of Justice calls a "violation of law" may more properly be said to be a violation of the Department's "interpretation" at the moment; it may never have been a "violation" up to that moment.

3—What the New Deal's courts, including its U. S. Supreme Court, may call a "violation" may be quite different from anything that court has said in the past, as witness many of its decisions.

4—The Department of Justice(?) has been quite prone to charge everything under the shining sun in its petitions, for the purpose of trying the cases in the newspapers and thus help force the accused companies to negotiate "consent" decrees which actually may not amount to much so far as the public is concerned nor much change the practices of the companies, but it is a "decree" which the Department can call a "great victory" the while it embellishes its public announcements with much which is not true—see Thurman Arnold's statements before the Truman Senate committee of the consent decree with the Standard of New Jersey over the rubber patents.

5—These co-operative agreements are so vast in their scope and necessarily include so many thousands of oil company officers and employes, who must carry out these understandings with the aid of letters and telegrams, that a few box cars of material is provided from which suspicious and devious-minded prosecuting attorneys can pick all sorts of fragments and sentences that they can piece together—as they did time and again in the Madison case—to tell most any kind of a story they want the court to hear.

6—There is no depending upon the courage or fairness of some government officials standing up in open court, or before the court of public opinion, and defending any industry that the administration has attacked.

7—Nor is there anything in the record to make one hope or believe that the Chief New Dealer himself will come to the aid of any Big Business or portion thereof that is being unjustly attacked by his Anti-Trust Division. Rather there is every indication that the Chief New Dealer must approve of, if he has not even instigated, these cases against business.

In short, this is plainly, from a record of 9 years, an anti-business administration and, also judging from the record, its anti-business policies have not yet been suspended for this war, the recent exchange of correspondence between Roosevelt and some of his cabinet officers to the contrary notwithstanding. Those letters can mean no more than whatever good faith one may be willing to impute to the entire administration.

Nor can it be said that the small man in the oil business is going to be free of any adverse effect from an unfair attack upon the larger companies.

What has the small man gotten from any of the New Deal's attacks on the majors to date?

We know of none, except kind words and a little newspaper publicity.

And there are some small Independent oil men who can testify to private conversations with some of the New Dealers that said in so many words these New Dealers had no interest in saving the small men, their admitted aim being to place the whole oil industry, meaning the larger companies, under more government control. There have been national administrations in the past that have fought battles for the Independent oil man, in which NATIONAL PETROLEUM NEWS has actively participated, and which battles helped to build the large number of smaller oil companies of today. But we know of no such good result from any actions of the present administration. Attacks that in the long run only build up the big companies and put them under government operation and which work against the success of the small man can result in but one thing: oppressive monopoly. Against it, this administration has used only empty words.

From all of the foregoing we submit that for the protection of every oil man, big and little, Congress should enact suitable legislation that will prevent, so far as possible, an unfair and biased Anti-Trust administration from taking advantage of the co-operation that is necessary in this war effort, to stab this oil industry in the back.

Such protective legislation is proposed in a bill by Senator Van Nuys of Indiana, introduced last month and published on page 11, April 8 issue of NPN.

Every oil man should read that bill and ask himself: "Is this sufficient protection for me in my war effort?"

And then write to his Senators and Congressmen about it, or about amendments or a new bill.

This oil industry, as well as all other American industries, should see that it is permitted to perform its most vital part in this great war without further molestation of the social reformers.

Stop Secrecy on Rationing

SECRECY at Washington in this war effort begets bad judgments, unjust decisions and utterly unnecessary damage to business and unnecessary delay and interference with industry's war efforts.

Now we are faced with secrecy as to the extent to which gasoline and oil rationing may be necessary not only in some parts of the country but perhaps all over the country. And we are faced with secrecy as to how such rationing should be handled.

Professors and economists at Washing-

ton with little or no knowledge of the oil industry are planning the degree of rationing and its form. Last week these bureaucrats had some conferences with committees from the industry's War Council and we believe with some OPC advisory committees. But as there is nothing of military value in all this there is no reason why the subject should not be discussed openly and frankly with every oil man. It is THEIR business which is about to be rationed. It will be THEIR business that will be damaged, in event poor judgment is used. It would seem only logical that, under the rules that have obtained in this country in the past, these American oil men should be consulted about what is to be done to their business and how it is to be done. Perhaps they might be able to offer the Washington professors some sound ideas? At least that might seem to be their privilege?

Prepare Now for Little Touring

THOSE oil companies with service stations that depend much on the tourists for a living had better begin deciding now what they will do this spring and summer if that tourists business should not develop.

The tourists bureau of a national oil company that in past years has received an average of 800 requests per day for touring information in the summer and at least 400 requests a day in the winter, reports that for March and the first few days of April these requests are off just 74.2%. They have been dropping rapidly since the morning after Pearl Harbor. Whether touring actually drops off that much may be a question. As summer approaches people may get their courage back and show more confidence in their tires.

But if touring drops 50% or 75% it means that new arrangements will have to be made at straight touring stations if they are to be kept going. These arrangements should be planned for now before further expense is incurred.

NPN's Washington Directory of Oil Agency Headquarters

Following is a partial list and directory of governmental agencies in Washington dealing with matters affecting the oil industry: (List is as accurate as possible but is only tentative as room and phone numbers are constantly changing.)
Abbreviations code: Rm for room; Ex for phone extension.

Office of Petroleum Coordinator

Interior Department (New Building) 18th and C. Sts., N. W., Phone REpublic 1820.

Co-ordinator
Harold L. Ickes, Rm 6153, Ex 5000.

Deputy Co-ordinator
Ralph K. Davies, Rm 6654, Ex 3831.

Assistant Deputy Co-ordinator
Robert E. Allen, Rm 6647, Ex 3334.

Co-ordinator's Staff
6th and 7th Floors, New Interior Bldg.

Special Assistants
George W. Holland, Rm 4446, Ex 4897.
Gordon M. Sessions, Rm 7519, Ex 2621.
J. Elmer Thomas, Rm 6420, Ex 4735.
Howard T. Mather, Rm 6622, Ex 4626.
H. A. Gilbert, Rm 6629, Ex 4418.

Production Division
Donald R. Knowlton, Rm 6647, Ex 4861.
Paul M. Raigorodsky, assistant director, Rm 7425, Ex 4774-2059.
Ralph J. Schilthuis, assistant director, Rm 6642, Ex 2907-4689.

Refining Division
Wright W. Gary, director, Rm 6639, Ex 3233-4644.
Robert B. Crawin, assistant director, Rm 7416 Ex 3237.
Phillip M. Robinson, assistant director, Rm 6644, Ex 4786-87.
Max B. Miller, chief equipment procurement section, Rm 3548, Ex 4540.
C. R. Wagner, chief process development section, Rm 3210, Ex 4619.

Transportation Division
Maj. J. R. Parten, director, Rm 6629, Ex 4418-3329.

Marketing Division
John W. Frey, director, Rm 6623, Ex 4646-7.
Paul A. Best, assistant director, Rm 6623, Ex 3518.
Ned F. Foulds, chief of fuel section, Rm 4255, Ex 4797, 4257.
D. C. Arnold, head of asphalt section, Rm 2512, Ex 2787.

Materials Division
William F. Huff, director, Rm 7314, Ex 4585.
Sturgis Stentz, assistant director, Rm 7314, Ex 4622-23.

Research Division
Edward B. Swanson, director, Rm 7315, Ex 649.
Oliver S. Ambrose, assistant director, Rm 7317, Ex 4777.

Conservation Division
Everett Lee De Golyer, director, Rm 7514, Ex 4459.

Legal Division
J. Howard Marshall, chief counsel, Rm 6649, Ex 4100.
Robert E. Friedman, associate chief counsel, Rm 6424, Ex 668.
David M. Hudson, associate chief counsel, Rm 6422, Ex 793.

CPM Priority Consultant
O. A. Davis, acting head priority specialist, Rm 7342, Ex 4616-17.

Executive Officer
Stanley W. Crosthwait, Rm 6415, Ex 4363.

Information Division
Herbert A. Yocom, director, Rm 7513-15, Ex 3844, 4650-3844.

Petroleum Supply Division
Robert Lee Mincklер, director, Rm 4448, Ex 4834.
R. C. Sauer, assistant director, Rm 4448, Ex 2083.

Foreign Division
James T. Duce, Rm 7444, Ex 2968.
Wm. D. Crampton, associate director, Rm 7452, Ex 4788-4891.
C. S. Snodgrass, associate director, Rm 7450, Ex 4789.
F. Willard Bergen, executive secretary, Tanker Control Board, Rm 7510, Ex 4744-4437.

Receptionist
Mrs. Rosalie E. Reid, Rm 6635, Ex 3429-4820.

Liaison
Gen. Walter B. Pyron
Liaison agent between Army Department and OPC, Phone RE 6700, Ex 6044, Rm 3062, Munitions Bldg., Constitution Ave. between 19th and 21st Sts.
Guy Holcomb
Head, Small Business Section, Department of Justice, Phone RE 8200, Ex 687, Rm 3503.

War Production Board

Petroleum Machinery Section, Special Industry Machinery Branch—Temporary Bldg. E, Third Floor, Seventh Wing, Phone REpublic 7500, Ex 3441.
A. E. Collins, chief, Ex 5741.
John W. Knoates, refinery equipment, Ex 5751.
William L. Clark, production machinery, Ex 5751.
E. B. Miller, production and refining equipment, Ex 5751.
M. A. Willner, production and transportation, Ex 5748.

Oil Section—New Social Security Bldg., Rm 4613, Phone REpublic 7500.
Dr. Walter Whitman, petroleum consultant, Rm 2041 Temporary R. Bldg., Ex 6310.
C. C. Monrad, assistant, Rm 2434 Temporary R Bldg., Ex 2983.

Office of Price Administration

Temporary D Bldg., 4th and Independence Ave., Phone REpublic 7500.
Leon Henderson, administrator, Rm 46, Ex 5586.
Dr. J. K. Galbraith, staff deputy administrator, Rm 258, Ex 5203
George H. Goss, administrative officer, fuel section, Rm 236, Ex 5389.
Leo Van Herpe, chief of fuel section accounting division, Rm 2230, Ex 5539.
George Doffing, price executive of fuel section, Rm 236, Ex 5388.
Joseph H. Salmon, petroleum division unit chief, Rm 2703, Ex 6376.
Robert Collacott, head of refined products division, Rm 2705, Ex 6636.
Dr. Walter Voskuil, chief of research, Rm 2721, Ex 6370.
Harry R. Booth, chief counsel, fuel division, Rm 1604, Ex 6359.
Watson B. Joyes, consultant in crude oil division, Rm 2717, Ex 4403.
Joel Dean, handling gasoline rationing plans, Rm 1048, Temporary S Bldg., Ex 71322.
U. S. Tariff Commission, 7th and F St., N.W., Phone NAtional 3947.

Petroleum Accounting Section
Kenneth Stone, chief, Rm 142, Ex 123.

Office of Defense Transportation

Interstate Commerce Commission Bldg., Constitution Ave. & 12th St., N. W. Phone REpublic 7500.
Joseph B. Eastman, director, Rm 5136, Ex 3527.
Fayette B. Dow, assistant on pipelines, tank cars, tankers and trucks, Rm 5132, Ex 3536.
J. G. Scott, counsel, Rm 5416, Ex 2460.

Motor Transport Division
John L. Rogers, director, Rm 4211, Ex 2297.
Sam F. Niness, chief of petroleum carrier section, Rm 4221, Labor Bldg., Ex 6351.
W. T. Cumming, chief of vehicle maintenance section, Rm 4211, Labor Bldg., Ex 72731.
T. L. Preble, consultant, vehicle maintenance section, Rm 3330, Labor Bldg., Ex 4862.
Gavin W. Laurie, consultant, vehicle maintenance section, Rm 3330, Labor Bldg., Ex 4862.
R. D. Thomas, chief of tire maintenance section, Rm 4209, Labor Bldg., Ex 2359.
H. H. Kelly, chief of allocation and materials section, Rm 4326, Ex 72912.
Leon F. Banigan, assistant to Kelly, Rm 4217, Labor Bldg., Ex 3644.

Congress

Congressional Oil Investigating Committee
Rep. Wm. J. Cole, Jr., chairman, New House Office Bldg., Rm 1535, Ex 699.

Senate Oil Shortage Investigating Committee
Sen. Francis Maloney, chairman, Senate Office Bldg., Rm 354, Ex 1196, phone NAtional 3120.

Petroleum Industry War Council

William R. Boyd, Jr., Chairman, Suite 700B Shoreham Hotel, Phone ADams 0700. Allan H. Hand, secretary-treasurer.

U. S. Maritime Commission

Commerce Department Phone REpublic 6620.
B. B. Jennings, director of tanker operations, War Shipping Administration, Rm 4309, Ex 87, 88, 89.

Keep'em in service for the Duration!

THAT'S the service station's job today! No new cars for the general public . . . and unless the old ones are kept in tip-top trim . . . America will have to learn to walk!

The Sun Oil Company is stressing the importance of proper lubrication more than ever these days. And Sunoco Automotive Lubricants are shipped to Sun stations in sturdy Crown Pails and Drums.

As a sidelight on meeting shortages caused by the war effort . . . that 25-lb. pail Crown makes for Sunoco often lives a double life. Purchased in considerable quantities by farmers . . . it serves as a handy bucket around the farm after the lubricant is used.

The Sun Oil Company is highly pleased with the publicity value and eye appeal of those attractively designed Crown Pails, too . . . for they make a most attractive display piece at stations in farming communities.

CROWN CAN COMPANY, PHILADELPHIA, PA., *Division of Crown Cork and Seal Company.* Baltimore • St. Louis • Houston • Madison • Orlando • Fort Wayne • New York • Nebraska City

CROWN CAN

INDEPENDENT AND HELPFUL

Federal Loans Urged For Small Producers

NPN News Bureau

WASHINGTON — If independent producers "with limited financial resources" have some sort of collateral, they may be able to borrow money from Uncle Sam to drill a wildcat if Senator Tom Connally, Texas, has his way.

Senator Connally proposes legislation to establish a "loan agency" under Petroleum Co-ordinator Ickes. Right now, it's only an idea, but Senator Connally told NPN that he's working on the draft of such a bill.

"I don't want the government to put money in a dry hole", the Texas senator said, "but I do think it only fair that producers with limited financial resources be given a chance to continue operations during the war emergency."

Lower Income Cited

"Under present circumstances," the Texan said, "it is next to impossible for independent oil producers to finance their operations out of their income from production because of its radically reduced output brought about by lack of adequate transportation facilities. Such course will probably call for legislation but I feel sure that Secretary Ickes, the oil co-ordinator, will look with favor upon such a plan.

"It is becoming increasingly difficult for independent producers with limited financial resources to continue development and exploration."

Higher Takings of Crude in Southwest Reflect Deeper Cuts in Output Quotas

NPN News Bureau

TULSA—Lifting of pipeline proration or increased takings in West Texas-New Mexico Permian basin crudes does not indicate that new or additional markets have been found, check of major buyers reveals. Rather, the increase in shutdown days in Texas to 18 and sharply-reduced allowable in New Mexico for April about balances the takings under former pipeline proration, buyers declare, so the proration has been adjusted or lifted and connections traded to help the producer as much as possible.

Crude stocks are piling up because of transportation situation on the Gulf Coast.

Humble led off in adjusting takings April 1, announcing it would take full current allowables in West Texas-New Mexico.

Full Tanks Forced Cut

Humble said they stored 1,800,000 bbls. in January-February, which accumulation forced program of reduced purchases on Feb. 21, 1942. But in spite of this, March brought additional accumulation of 600,000 bbls., which it will still be storing in April, based on present outlets, while taking the full allowable. "Restoration of full

Ickes Urges 'Strong, Active' Conservation Laws as Oil State Lea

"Strong, active, effective conservation laws in each of the oil and gas producing states" was urged today by Petroleum Co-ordinator Ickes speaking before the first meeting here of the National Conference of Petroleum Regulatory Authorities.

War has necessitated some federal regulation of the petroleum industry, said Mr. Ickes, but it has not decreased the importance of state regulatory agencies.

"We have indicated what the national program requires of each state and we have purposely left it to the states to work out their own problems of how best to conform with the national requirements," Mr. Ickes explained.

"That is the way I prefer to see it handled, but this means that the states must have effective laws properly administered that will permit speedy decisive action if we continue to rely solely upon their voluntary co-operation."

Mr. Ickes said he would be pleased if the war's end found all the oil states equipped with adequate conservation laws and a record of co-operative accomplishment during the war so as "to demonstrate fully that the states could then effect continued proper regulation of petroleum operations."

However, Mr. Ickes urged that state lines be forgotten for the duration, declaring that the armed forces didn't care whether their fuel comes from "the Mid-Continent or Timbuctoo." Main problem is to supply essential requirements with a minimum expenditure of critical materials. Future, as well as immediate requirements, must also be considered, he added.

Warren D. Skelton—Wyoming

P. J. Hoffmaster—Michigan

Lithgow Osborne—New York

Gov. M. M. Neely—W. Virginia

Reed D. Bush—California

A. F. Schoeppel—Kansas

Allen Opens Meeting

Assistant Deputy Petroleum Co-ordinator Robert E. Allen presided at opening of meeting and turned the gavel over to Oklahoma's Gov. Leon C. Phillips who acted as temporary chairman.

Invitations to attend this meeting were sent to following:

O. C. Bailey, chairman of Arkansas Oil and Gas Commission; Warwick M. Downing, chairman of Colorado Gas Conservation Commission; Robert M. Medill, director of Illinois Department of Mines and Minerals; Prof. Ralph Esarey, Indiana Department of Conserva-

purchases is made in the hope that Humble will either find markets for the additional crude or be able to turn connections over to others who can use them," announcement said.

Humble has turned over connections producing 5000 bbls. daily in the Wasson Pool to another buyer (said to be Shell).

Magnolia also has announced it will take full allowables in West Texas, while Sinclair is now taking 75% of the allowables instead of 50% as before.

Atlantic Pipeline Co., who made the most severe cut in its takings — to 23% — has announced it will take 60% in Ward County, full allowable in the Henderson pool and full allowables where it has contracts, besides turning New Mexico takings at Hobbs to Shell.

Ask Drilling Halt To Provide Steel For Line to East

Special to NPN

TYLER, TEX. — Independent producers in east and west Texas, in effort to move more oil to the East Coast, are circulating a petition calling for executive action from President Roosevelt in building pipelines and other transportation from east Texas to the Eastern Seaboard, according to H. P. Nicholls, secretary of East Texas Oil Assn.

Briefly, petition requests the president to:

1—Order major oil companies to construct pipelines with capacity of not less than 120,000 bbls. daily from East Texas to eastern seaboard.

2—Order War Production Board to release necessary steel.

3—Order shutdown of all drilling operations in the Mid-Continent, except wildcat drilling, to provide necessary steel and machinery.

2 Lines Recommended

Group recommends 12-in. line exclusively for gasoline, and an 18-in. for all products, including crude. Also a canal across Florida from Apalachicola to St. John's River—less than 80 miles —which, it is claimed, will save 1200-mile tanker trip around tip of Florida, and, with inland waterways, petroleum can be moved to Pittsburgh area entirely by barge, Mr. Nicholls said.

He also said group has "positive information" many crude lines in Texas are running 17-18% to 28% of capacity now. The group wants to consolidate them, using this pipe for proposed lines to East.

U. S. Crude Cost Survey Ready in 2-3 Weeks

WASHINGTON — Office of Price Administration probably will be given preliminary figures on the costs of producing crude within two or three weeks as a result of U. S. Tariff Commission survey which began last December, NPN was told today.

State Leaders Gather

tion; Andrew F. Schoeppel, chairman of Kansas Corporation Commission; Joseph L. McHugh, commissioner of Louisiana Department of Conservation; Hugh M. Morse, Mississippi State Oil and Gas supervisor; P. J. Hoffmaster, supervisor of Wells, Michigan Department of Conservation; John M. Kelly, New Mexico Oil Conservation Commission; Lithgow Osborne, commissioner of New York State Conservation Department; Reford Bond, chairman of Oklahoma Corporation Commission; Jerry Sadler, member of Texas Railroad Commission; Parker L. Melvin, Pennsylvania; Warren D. Skelton, Wyoming State Mineral supervisor; Mathew M. Neely, governor of West Virginia; and Reed D. Bush, chief of California Division of Oil and Gas.

Other Representatives Named

In addition, governors of following states appointed representatives:

Kentucky—N. W. Shiarella, president of Kentucky Oil & Gas Assn.; Ohio—Charles J. Jones, director of commerce; Nebraska—Allen G. Burke, director of Department of Agriculture and Inspection and Montana—A. B. Cobb, chairman of Oil Conservation Board and Austin B. Middleton, chairman of Board of Railroad Commissioners.

To represent the Interstate Oil Compact Commission were Gov. Leon C. Phillips, Oklahoma, and Hiram M. Dow, Roswell, N. M.

P. L. Melvin—Pennsylvania

W. M. Downing—Colorado

J. L. McHugh—Louisiana

Jerry Sadler—Texas

Reford Bond—Oklahoma

Robert M. Medill—Illinois

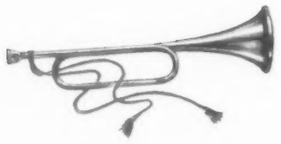
Prof. Ralph Esarey—Indiana

Hugh M. Morse—Mississippi

John M. Kelly—New Mexico

WITHOUT

BENEFIT OF FANFARE



OFTEN WHAT YOU LEARN from working with one product has an astonishing effect on another. Which is why you can now buy a new and better motor oil.

The story begins with turbine oil, a very important product used in the powerful turbines that are the backbone of our country's manufacturing and defense system.

There are some notable characteristics about Gulf turbine oil. Due to a new process developed by the Gulf Laboratories, *it lasts longer. It has greater resistance to heat and oxygen. It has greater film strength. It resists sludging, to an unbelieved-till-proved extent. It provides better, safer lubrication.*

So good is this oil that, ever since defense work first started, very few big turbines have been installed in Gulf territory without it. It is helping us to win the war.

FROM TURBINES TO MOTOR CARS

The oil in a turbine and the oil in your motor have many characteristics in common. So the improvements made in the turbine oil have been turned to the benefit of your car.

Today, these same new improvements have been applied to our Alchlor-Processed Gulfpride Motor Oil—an oil that had already won recognition as "The World's Finest Motor Oil."

In your car, this new Gulfpride will give safer lubrication, a cleaner motor, less carbon, and greater protection for piston rings and bearings.

☆ ☆ ☆

We don't want to "announce" the New Gulfpride with fanfare and sales drives. Our refineries are already working at capacity on automotive, aviation, industrial, and military products.

But we do want the several million Gulfpride users to know about its further improvement. Gulfpride—the new Gulfpride—is now better than it has ever been. Now more than ever "The World's Finest Motor Oil." It will keep repair costs down and help make your car last for the duration.

NEW

Gulfpride

"THE WORLD'S FINEST MOTOR OIL"

OIL IS AMMUNITION

USE IT WISELY !

Michigan Jobbers Hit Anti-Trust Suspension

By NPN Staff Writer

DETROIT—Opposition to the Van Nuys Bill (S. 2431), Proposing suspension of anti-trust laws and the Federal Trade Commission Act (*NPN April 8, p. 11*), was voiced in a resolution unanimously adopted by the Michigan Petroleum Assn. at its eighth annual convention here April 7-8.

Many integrated oil companies, the resolution charges, have failed to demonstrate their sincerity in utilizing facilities to the fullest extent during the present emergency. It urges Michigan's congressional representatives to vote against the bill and asks that "an inquiry be made into the operation of pipelines to determine why a group of integrated oil companies is withholding full co-operation from the war effort."

Organize War Board

Formation of a Michigan Oil War Board, designed to give full co-operation of Michigan jobbers to requests and orders of the Office of Petroleum Coordinator was announced. The 24 directors of M.P.A. are members of this board, and have accepted responsibility for handling the work in their territory.

Paul Kempf, Ann Arbor, Staebler-Kempf Oil Co., Michigan representative of the jobber's subcommittee of District 2, will act as liaison officer of the new war board. All business with and for the government in connection with Michigan jobbers will clear through Mr. Kempf. First job of the board will be a survey of transportation and empty storage facilities.

Relief from sales tax procedure was asked in another resolution approved by the Michigan jobbers. The resolution states that under the present system, manufacturers are not required to collect a sales tax on federal tax, but jobbers in selling the same product must collect sales tax on the amount of the products tax plus the federal tax. "Elimination of discrimination" between jobbers and manufacturers is asked in the resolution.

Hit Kerosine Inspection

Another resolution asks that the state kerosine inspection law be rescinded because the present law gives little fire protection to oil jobbers.

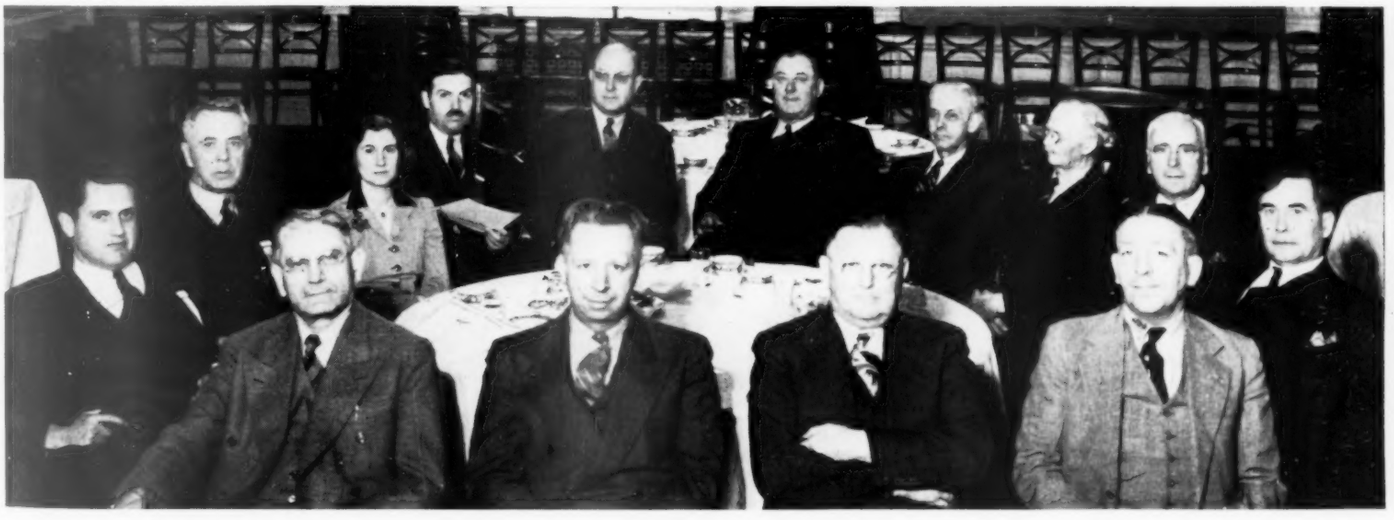
M.P.A.'s meeting, which was attended by 85 oil jobbers, heard Glenn Keister, Detroit, district sales manager of Shell Oil, tell of the oil industry's vital role in winning the war. The future of

(*Continued on page 37*)

Michigan Petroleum Association Officers Re-elected

Officers of M.P.A., re-elected at the association's annual meeting in Detroit, are (left to right): Executive Secretary—J. D. Hadley; President—J. F. Wilson, Star Oil Co.; Vice-President—John Jankoviak, Suburban Oil Co.; Secretary—Leigh Morden, Morden Oil Co. Not included is Association Secretary James Truesdall of Austin Oil Co.

Michigan Petroleum Association Organizes Oil War Board



Directors of Michigan Petroleum Assn. met during annual convention. Left to right clockwise around table: J. D. Hadley, executive secretary; J. F. Wilson, Star Oil Co., association president; Mabel Kipp, Secretary to president; Neil Staebler, Staebler-Kempf Oil Co.; Mr. Chase, representing Director Ferris Rennie, Rennie Oil Co.; H. W. Schulty, Schulty Oil Co.; C. J. Crooker, Gitche Gumee Oil Co.; Peter Jensen, Hansen & Jensen Oil Co.; Leigh Morden, association secretary, Morden Oil Co.; John Jankowiak, association vice-president, Suburban Oil Co.; A. D. Dubuisson, Wolverine Service Stations; Harold Merritt, Peerless Petroleum Co.; G. W. Vernick, Superior Oil Co.; Galen Wilson, Franklin Oil Co. Directors not shown are: Royal A. Decker, Plymouth Oil Co.; A. E. Truesdall, J. Austin Oil Co.; B. W. Grimm, Petroleum Express Co.; E. M. Sergeant, E. M. Sergeant Fuel Oil Service; Vern Skinner, Mid West Refineries, Inc.; John Todd, Todd & Ross; James F. Truesdall, J. Austin Oil Co.; Bert Teeple, Minden City Oil & Gas Co.; Ray Merritt, Merritt Oil Co.; V. J. Kaher, Kaher & Friend; Adam McGregor; Samuel Steadman, Steadman Gas & Oil Co.; Geo. Newton, Lake States Oil Co.

FOR PHILLIPS 66 DEALERS

A "1-2 PUNCH" that will build Spring Oil-Change Business!

1. NEW FREE WAR MAP

with every purchase of Phillips 66 Motor Oil!

Throughout the Spring change-over period the new Phillips 66 War Map of the World will do a *selling* job for Phillips 66 Dealers. Designed especially for radio listeners and offered on Phillips 66 Newscasts and in newspaper and magazine advertising, this new free War Map will be given with every purchase of Phillips 66 Motor Oil. It's a sure-fire business builder, an offer that will *Keep 'Em Coming!*

Phillips 66

2. GREAT NEW ADVERTISING

that's "Tuned to the Times"!

In newspapers and magazines, on billboards and on the radio, an intensified Spring change-over campaign will talk the motorist's own language. "Better Baby your Motor" say these powerful human interest ads, and they tell him *how!* Every motorist knows that he must now make his car last longer, and millions are being told that the way to do it is to stop at Phillips 66 Service Stations for the Spring change-over. These are ads "tuned to the times," and timed to *bring in the business!*

PHILLIPS PETROLEUM COMPANY

Bartlesville, Oklahoma

REFINING NEWS

Refining Faces Realignment To Meet New Demands of War

NPN News Bureau

WASHINGTON—U. S. refining industry is being realigned to meet wartime emergencies, especially the prospect that there may be virtually no tankers available for commercial service by end of this year.

Plans include changes in markets, sources of supply, yields and other operating details affecting most plants in the country.

How soon refineries in interior districts will be affected, depends on when it will become necessary to restrict consumption in these areas.

Idea is not to ration the Middle West, for example, just for the sake of rationing. But diversion of Mid-Western transportation facilities to serve the East Coast may make some curtailment necessary in the Middle West. How much, would depend on reduced consumption of gasoline due to tire conservation.

Gulf Is First Problem

Pressing problem now is the Gulf Coast district where some refineries have already shut down, due to products piling up with the flow to East Coast markets narrowed to a trickle. But the effect of measures to alleviate the Gulf-Atlantic situation cannot help but ultimately affect all other areas.

Basic approach to the whole problem is to estimate, so far as possible, demand for products this year.

This has been done by the Petroleum Industry War Council's economics committee, headed by Dr. R. E. Wilson (Pan-Am). But they emphasize the "hazardous" nature of a 9-month forecast. Figures will be revised from time to time in light of developments and added information available.

See 2.3% Hike in Demand

Allowing for increase due to war activities and anticipated decreases due to rubber restrictions, the P. I. W. C. group estimates that total U. S. demand for all products in 1942 will increase 2.3% over 1941.

They figure the East Coast's "consumption essential to the war effort" at about 1,300,000 bbls. daily as compared with consumption of around 1,700,000 bbls. normally.

Obviously, as one high-ranking OPC official commented, all refineries cannot be kept running when transportation facilities are not available.

Problem is to decide what refineries can—and should be—kept operating. And the criterion, of course, will be what's best for the country's war effort.

War Production Favored

Solution will be approached with a desire to keep as many plants operating as possible. But plants working on orders for 100-octane, toluol and other war-essential products will be favored. They will get first call on types of crudes they need. And when crude allowables are cut, it will be the other crudes that bear the brunt. Plants using these "other crudes" may find it difficult to get supplies.

There will be other factors, too, which will tend to make it more feasible for some plants to shut down rather than continue operating.

Gulf Cited as Example

For example, suppose it is determined that to manufacture the war-essential products needed from the Gulf Coast, it is necessary that 60% of total refining capacity in that district be kept operating. Some plants working on war orders may have to run 100% of capacity or at other rates well above 66%. That means other plants without war contracts will have to cut back far below 66%. Running at such low rate would increase costs. So, such plants may prefer to shut down, especially if a plan were worked out by which they could obtain *at cost* motor fuel and other by-products of wartime production at other plants to supply their customers.

Many Factors Involved

Many factors besides war contracts will figure in the situation. One big consideration will be the matter of best using available transportation facilities which implies a realignment of sources of supply and even markets.

Both government and industry representatives here realize the magnitude of the problem. They are developing a broad program which will meet not only the present situation but a more aggravated condition may come later this year as more tankers are "lost" to commercial use. And they are considering even the possibility that the coastal areas may be completely dependent upon overland transportation before the year ends.

Working from its estimates of demand, the P.I.W.C. economics committee has developed an overall schedule of crude production and refinery runs which substantially decreases the gasoline yield while increasing output of fuel oils. (Summary of this schedule, together with effect of its application on refinery yields, is given in accompanying tables.)

Because no decision has been made yet as to whether rationing would be applied to interior areas as well as the coastal regions, each table gives two alternative schedules while the P.I.W.C. committee's report uses the term "rationing", it was explained that this did *not* mean card rationing but curtailment of consumption generally, such as the program of curtailing gasoline and fuel oil deliveries now in effect in the East and Pacific Northwest.

Study Hemisphere Demand

Besides the question of curtailing interior areas of the U. S. there is also the matter of other western hemisphere demand—and how much it should be curtailed. The committee estimated that outside of the U. S. there would be a 10% increase in demand for all products in the western hemisphere this year.

Once these basic decisions have been made, the P.I.W.C. committee said, "it will then be possible to work out for each major area affected the estimated reduced product requirements, and from these set up a supply and demand program of refinery runs, yields and crude production."

REFINERY YIELDS BY QUARTERS (1942)

(Per Cent on Crude)

	When Rationing Tanker-Supplied Areas Only				When Rationing U.S. Interior in Addition			
	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q
Gasoline	42.7	40.5	38.9	37.0	42.7	39.5	36.9	35.3
Residual Fuel Oil	25.8	27.8	27.9	29.4	25.8	28.7	28.7	29.8
Distillate	15.4	13.2	14.5	16.6	15.4	13.8	15.3	17.7
Kerosine	5.6	5.0	5.1	5.9	5.6	5.2	5.4	6.3

CRUDE PRODUCTION AND REFINERY RUNS (1942)

(Thousands of Barrels Per Day)

	When Rationing Tanker-Supplied Areas Only					When Rationing U. S. Interior in Addition				
PRODUCTION	1st Q	2nd Q	3rd Q	4th Q	Year	1st Q	2nd Q	3rd Q	4th Q	Year
Interior	1269	1258	1222	1176	1231	1269	1259	1222	1176	1231
Gulf-Atlantic	2057	1993	1913	1872	1958	2057	1817	1643	1560	1767
California	628	631	624	635	630	628	631	624	635	630
Total U. S.	3954	3882	3759	3683	3819	3954	3707	3489	3371	3628
Imports of Crude & Products	222	196	198	208	206	222	204	213	223	216
REFINERY RUNS										
Interior	1249	1271	1280	1225	1256	1249	1272	1280	1225	1256
Gulf-Atlantic	1966	1952	1834	1787	1884	1966	1179	1574	1484	1699
California	533	581	575	586	569	533	581	575	586	569
Total U. S.	3748	3804	3689	3598	3709	3748	3632	3429	3295	3524

Liquefied Gas Installations Banned by WPB's Order L-86

NPN News Bureau

WASHINGTON—Installation of liquefied petroleum gas equipment other than used in refining, or marine, rail, pipeline or truck facilities—has been blocked by War Production Board, because "the fulfillment of requirements for the defense of the United States has created a shortage in the supply of liquefied petroleum gas and liquefied petroleum gas equipment."

Limitation Order L-86, effective April 8, categorically banned installation of equipment with this sentence:

"Subject to the exceptions in paragraph (d) hereof, no person shall install liquefied petroleum gas epuipment."

Exceptions Listed

The exceptions:

1. Material to be used for maintenance and repair is not affected.

2. If equipment was being installed before Jan. 14, 1942, and is scheduled for completion on or before May 15, 1942, the order does not stop the installation.

3. If equipment actually was in use before April 1, 1942, and later withdrawn, equipment may be installed.

4. Containers of equal capacity may be exchanged on the premises of any person in the course of normal distribution of l. p. g., and a large container may be replaced by a larger one.

5. War Production Board is empowered to specifically exempt any proposed installation if it is necessary "in the public interest and to promote the war effort."

Equipment Defined

The order itself made no distinction between old and new equipment, but the WPB announcement accompanying the order interpreted it to mean only the installation of new equipment is banned.

The order defined l.p.g. equipment thus:

"Liquefied petroleum gas equipment means equipment (other than marine, rail, pipeline or truck facilities used in transportation of liquefied petroleum gas and other than equipment used in refining), or parts thereof, used to contain, distribute, or dispense butane, propane, propylene, butene, butylene, or any combination or dilution thereof, commonly known as liquefied petroleum gas."

The order, originally known as M-68-d, will be administered by the plumbing and heating branch of WBP.

Patent Hearings Open

NPN News Bureau

WASHINGTON — Senate Patent Committee opened hearings April 13 on S. 2303 which would require compulsory licensing of all patents covering products needed for prosecution of the war, and a committee aide said synthetic rubber probably would not come up until the week of April 20 or April 27.

Sen. Homer T. Bone, Wash., said Justice Department files on patents relating to aviation gasoline pumps and synthetic rubber, as well as a number of other products, had been subpoenaed.

Standard Oil Co. of New Jersey "and its subsidiaries" have been asked to submit "pertinent documents for the consideration of the committee", Sen. Bone asserted.

Ethyl Corporation Cuts 'Lead' Fluid Colors

NPN News Bureau

NEW YORK—Ethyl Gasoline Corp. has informed refiners that it is no longer able to supply tetraethyl lead fluid in a variety of colors, to enable them to more easily obtain the color standards desired in finished gasolines.

Because of a shortage of certain dye materials, Ethyl is now manufacturing the fluid for all motor gasoline in a single color —Yellow No. 1—which, it was determined, would cause least complication when dyes of other colors were added to obtain established color standards for house brands. The new fluid is supplied in a number of shades of the same color and the refiner is advised what other dyes to use to maintain the former color of his gasoline.

Gulf 'Gas' Stocks Up

Special to NPN

HOUSTON — Gasoline stocks held by the 13 members of Gulf Coast Refiners Assn. increased the last half of March along with increased crude runs to stills, while stocks of most grades of fuels decreased, according to G.C.R.A. report of April 1 inventory position.

All types of gasoline stocks totaled 2,786,203 bbls. April 1, an increase of 276,802 bbls.

Mexico Seeks Refining Output Of 35,000 Bbls. Daily

NPN News Bureau

WASHINGTON — Negotiations for approximately 35,000-bbl. daily refining capacity for Mexico are now under way with Office of Petroleum Co-ordinator, according to reliable reports here. Octane rating could not be learned, but it's believed that it would be in the top octane brackets.

Due to tight steel plate situation, Mexican representatives are reported to be dickering for certain Texas refineries which have been shut down for some time.

Request Revision Of Additives Curb

NPN News Bureau

WASHINGTON—Because of recent developments in availability of containers and dispensing equipment, Petroleum Industry War Council, at its April meeting here, recommended as "necessary" the following changes in Office of Petroleum Co-ordinator's Recommendation No. 40 (*NPN March 18, p. 15*):

"1—Remove the definite single recommendation that E. P. lubricant may not be used in passenger car transmissions, and substitute therefor a recommendation that the use of critical additives be reduced by a minimum of 25%. It is suggested that this curtailment may be accomplished by the use of mineral lubricants for passenger car transmissions, or by reducing the proportion of critical additives or by substituting non-critical additives.

"2—Eliminate recommendation that E. P. lubricant packages be marked 'Not for Passenger Car Transmissions.'

"3—Exempt fire department vehicles in addition to police cars and motorcycles which are already exempted."

Republic Oil Plans Unit To Produce 100-Octane

Special to NPN

PITTSBURGH—Republic Oil Refining Co. has signed all necessary contracts for construction of a $7,130,000 government-financed unit to produce 100-octane aviation gasoline, a company official disclosed April 11.

Papers covering the new unit, which will be located on the Gulf Coast, have been sent to Defense Plant Corp., unit of Reconstruction Finance Corp., for final government approval, the official said. He added that Republic anticipates final clearance sometime during week ending April 18.

P.I.W.C. to Study 12-Point Program On Asphalt Sales

NPN News Bureau

WASHINGTON—Reports from the five district marketing committees on a 12-point asphalt and asphaltic products program are scheduled for the May meeting of the Petroleum Industry War Council.

Purpose of these reports is to fix ways to conserve transportation facilities "to minimum necessary requirements" in all 5 districts. Points to be covered in the reports follow:

"1—Restrict for sale and consumption in District 1, all Asphalt or Asphaltic Products produced or shipped into District 1.

"2—Encourage or require Asphalt refiners and marketers in Districts 2 and 3 to ship via tank car direct from refineries to consumers in District 1.

"3—Restrict the sale of Asphalt or Asphaltic Products to states, counties, cities, towns and municipalities or subdivisions thereof to *absolutely essential* new construction, reconstruction, maintenance and repair of highways, roads and streets.

"4—Require states, counties, cities, towns and municipalities or subdivisions thereof, to purchase Asphalt or Asphaltic Products on a definite and stipulated quantity basis, rather than "our requirements" basis.

"5—Eliminate the sale of or use of Asphalt or Asphaltic Products for manufacture of floor coverings.

"6—Restrict the sale of Asphalt or Asphaltic Products for the manufacture of Asphalt roofing products to the absolute minimum requirements of (a) the military forces of the United States (b) the war industries and (c) essential civilian requirements.

"7—Discourage the sale of Asphalt or Asphaltic Products for roofing repairs which can be deferred.

"8—Eliminate the sale or use of Asphalt or Asphaltic Products for the manufacture of briquettes.

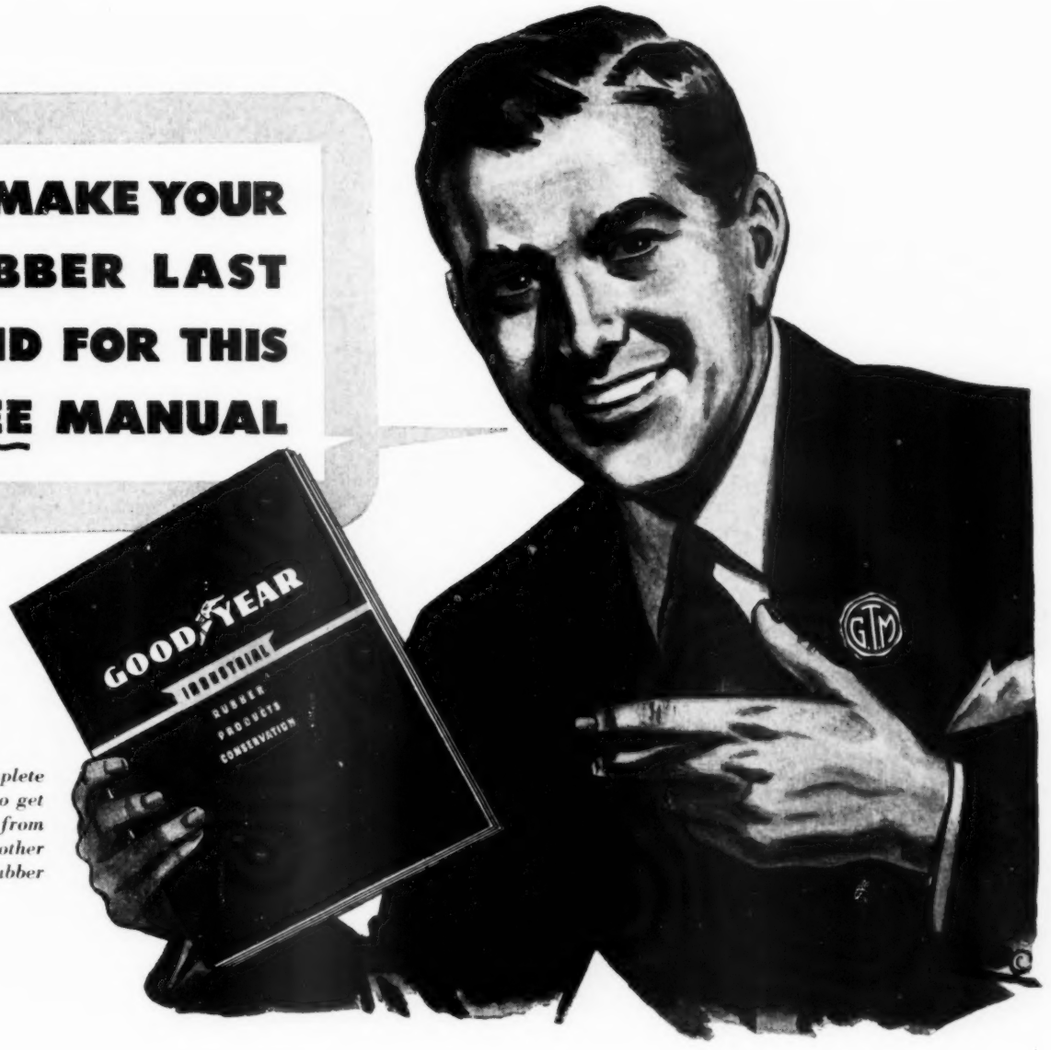
"9—Eliminate the sale of Asphaltic Products for use in paving driveways, tennis courts, swimming pools, sidewalks, and other than essential purposes.

"10—Eliminate the sale of all road oil under 85% Asphaltic content for highway purposes.

"11—Eliminate the sale of Asphalt or Asphaltic Products for proposed railroad ballast and station platform repairs.

"12—Curtail by 50% the sale of Asphalt or Asphaltic Products for use as plastic cement."

TO MAKE YOUR RUBBER LAST SEND FOR THIS FREE MANUAL



—contains complete data on how to get longer wear from belts, hose and other mechanical rubber goods.

EVERY user of rubber will want this new Goodyear Industrial Rubber Products Conservation manual. It tells you how to prolong the life of your present rubber installations—how to prevent premature failures that cause the needless waste of millions of pounds of rubber every year.

It's authoritative because it is written by the G.T.M. —Goodyear Technical Man—industry's consultant on all major rubber problems. It's complete, filled with practical suggestions and diagrams covering installation, inspection, maintenance, correction of abuses, and instructions for proper repair. It's essential, even if you hold a priority, *because there's no telling what further restrictions may be put on rubber!*

Remember, improper application and maintenance can reduce the life of rubber products by as much as 50%. This manual will enable you to recognize and correct all such cases now—help you save rubber and save money. To get your free copy mail the coupon below—today.

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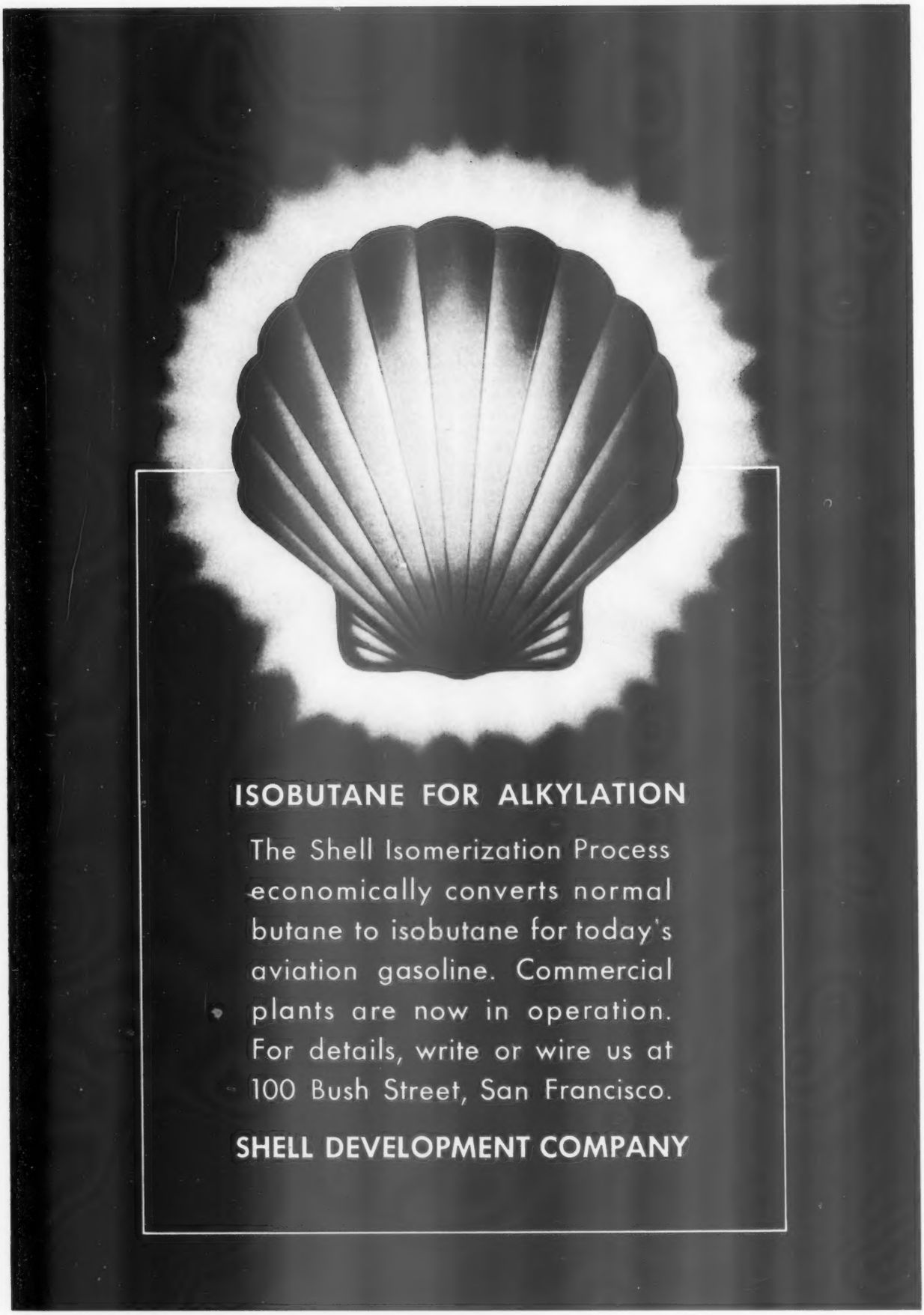
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Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

Refinery Yields in Some Districts in 1941 Were Affected by the Nation's War Program

Some indication of how refinery operations were affected by the nation's war preparations in 1941 is given in a study of yields of gasoline, distillates and heavy fuel oils from crude run to stills, prepared for the 10 U. S. refining districts in the U. S., from data in the Bureau of Mines monthly reports. (See Table 1) In January of this year, compared with January, 1941:

East Coast refineries had increased their total yields of these products from crude runs by 2.5% and were making proportionately more cracked gasoline and heavy fuel oil.

Refineries in the Appalachian district, at the start of this year, were taking a proportionately lower yield of gasoline and fuel oils from crude run in their stills, and indications were that the difference was going into increased output of lubricating oils and special products.

Refineries in the Indiana-Illinois-Kentucky district, farther removed from the East Coast and its greatly stimulated industrial activity and shortages due to transportation difficulties, were operating at the start of this year with about the same yields as in January, 1941.

Oklahoma, Kansas and Missouri plants increased their total rate of output of gasolines, distillates and heavy fuel oils through 1941 and, by January, 1942, were taking 84.5% of these products from crude runs, as compared with 79.5% in January, 1941. They were making proportionately more cracked gasoline and distillate fuels but less straight-run and heavy fuel oils.

Plants in the Texas Gulf Coast district, their tanks full because of the shortage of tankers to haul to the East Coast, in January had cut their yields from crude to 81.1% from 83.3% in January, 1941, and higher yields reached during the summer. They were making more cracked gasoline, but less straight-run and light and heavy fuel oils.

California refineries, taking about the same total yield of the large volume products in January, 1942, as in the same month the year before, were making more cracked gasoline and less straight-run and fuel oils.

In most districts, the proportionate yield of cracked gasoline from crude run to stills increased throughout 1941 and yields of straight-run gasoline declined. This indicates the continuing impetus of the refining program to which the industry has been committed for some years of improving its motor fuel gasoline by cracking, reforming and other methods. While the latest data available from the Bureau of Mines reports is for January, later data, taken from the reports on refining operations of the American Petroleum Institute, shows total gasoline yield at all refineries in March continuing at approximately the same rate of yield from crude as in January, 44.6%. This is slightly over the average for all of 1941. The present yield, however, is not as high as in 1939, when it was 45% of crude, the bureau reported. Gasoline yield dropped in 1940 to 43.1%, due, the bureau stated, to operations to improve the octane number and also due to the diversion of some material to the output of heating oils.

The present emphasis on refinery operations is on increasing yields of fuel oils needed in military operations and by essential industries. Also indications are of generally less demand for motor gasolines this year, due to tire rationing. With this trend in mind, the data on Table 1 on high and low rates of yield of principal products realized in 1941 operations is of interest in that it shows the relatively small extent, for most districts, to which

TABLE 1—Per Cent Yields of Gasolines and Fuel Oils from Crude Runs to Stills in 1941 By Refining Districts of the U. S., Compared with Per Cent Yields in January, 1942

DISTRICTS	Straight-run Gasoline			Cracked Gasoline			Total Gasoline			Distillate Fuel Oil			Residual Fuel Oil			Yield from Crude of Gasoline and Fuel Oils	
	Jan. 1942 %	High 1941 %	Low 1941 %	Jan. 1942 %	High 1941 %	Low 1941 %	Jan. 1942 %	High 1941 %	Low 1941 %	Jan. 1942 %	High 1941 %	Low 1941 %	Jan. 1942 %	High 1941 %	Low 1941 %	Jan. '42 %	Jan. '41 %
East Coast	15.0	16.3	13.1	26.3	26.3	21.3	41.3	40.9	35.4	19.8	24.7	15.5	28.5	27.3	21.8	89.6	87.1
Appalachian	19.0	21.4	18.3	26.8	30.2	26.1	45.8	48.7	45.6	9.2	11.0	8.0	14.1	16.9	12.0	69.1	72.8
Ind.-Ill.-Ky.	23.2	24.3	20.9	29.2	31.8	28.1	52.4	53.9	50.4	11.3	11.3	9.6	19.7	21.6	16.4	83.4	83.3
Okla.-Kans.-Mo.	22.7	26.7	24.2	30.4	28.6	24.9	53.1	54.9	49.6	13.8	11.9	9.7	17.6	18.6	16.8	84.5	79.5
Inland Texas	25.3	31.9	24.4	27.1	28.5	23.1	52.4	60.4	52.2	3.8	4.2	3.0	22.8	22.1	20.0	79.0	77.8
Texas Gulf	15.5	18.6	15.2	26.5	29.0	25.0	42.0	45.5	41.9	17.5	18.4	14.5	21.6	24.1	22.6	81.1	83.3
Louisiana Gulf	18.5	23.2	16.3	20.3	20.0	17.1	38.8	41.3	35.5	14.5	18.8	12.4	25.9	27.0	21.8	79.2	77.5
N. La.-Arkansas	23.7	27.0	24.0	17.0	18.3	15.0	40.7	43.9	40.1	12.6	10.3	6.8	23.1	27.1	21.2	76.4	75.9
Rocky Mountain	25.9	28.7	25.5	23.0	30.5	19.5	48.9	57.1	48.2	8.9	10.4	7.3	25.9	28.8	18.6	83.7	82.4
California	18.8	21.2	19.3	16.2	16.2	11.0	35.0	35.9	32.2	11.7	15.4	10.3	42.3	45.1	39.1	89.0	89.5
All U. S. Jan. 1942	19.1			25.5			44.6			14.2			24.7			83.5	83.5
Average All U. S., 1941	19.8			24.4			44.2			13.5			24.5			Avg. '41	82.2

yields of these products are normally adjusted to meet seasonal demands.

East Coast: Output of cracked gasoline in January, 1942, continued at the highest rate reached in 1941, 26.3%. In the early months of 1941, yield of cracked gasoline averaged 22%. Rate of output of distillate and heavy fuel oils was lower in the latter part of 1941 but in January, 1942, yield of residual fuel oil was at a higher rate than for any month in 1941.

Appalachian: For all months in 1941 total yield of the large volume products was higher than in January, 1942. Output of cracked gasoline was 30.2% in December, 1941, compared with around 27% in the early part of the year, but dropped early in 1942. Yield of residual fuels dropped throughout 1941 as cracked gasoline output increased.

Indiana-Illinois-Kentucky: Rate of yield of straight-run gasoline increased throughout 1941 in this district and highest yield, 24.3%, was in December. There was little change in the yields of cracked gasoline and changes in rate of output of light and heavy fuel oils were the result of seasonal demand, rather than any trend through the year.

Oklahoma-Kansas-Missouri: Rate of output of cracked gasoline increased during 1941 and was higher in January, 1942, than at any period in 1941. There was little change in straight-run or light or heavy fuel oils. Total yield of the large volume products was 5% higher in January, 1942, than the same month the year before.

Inland Texas: Yield of both straight-run and cracked gasoline increased moderately. Rate of 31.9% for straight-run in December, 1941, was largest of any refining district in the country, making total gasoline yield 60.4%, also the highest for any district.

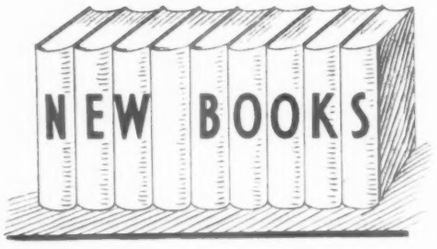
Texas Gulf: At the start of 1941, total yield of gasolines and fuel oils was 83.3% and this increased to over 84% in the summer, and was close to 85% in December. Then, distress of refiners because of inability to ship their products to the East Coast brought reduction in total yield in January, 1942, to 81.1%, by cutting yields of cracked gasoline and residual fuel oils.

Louisiana Gulf: Moderate increase in rate of yield of cracked gasoline during 1941.

Louisiana-Arkansas: Yields of distillate fuels improved during the year, at the expense of residual fuel oil output. Little change in gasoline yields.

Rocky Mountains: Greater seasonal variation in cracked gasoline yields than in any other refining district, ranging from 19.5% early in the summer of 1941 to 30.5% in November. Yields of residual fuel oils also have a wide range and are low in the summer, when the proportionate yields of asphalt and road oils are high at plants in this district.

California: Yield of cracked gasoline increased in 1941 and that in December, 16.2%, was highest of the year and continued through January, 1942. Rate of output of distillate fuels was reduced throughout the year and the yield in December, 10.3%, was lowest for 1941. Little change in yield of straight-run gasoline or heavy fuel oils.



Revised Chemical Dictionary Includes 18,000 Listings

The new compounds now being taken from petroleum as raw or intermediate materials in the manufacture of synthetic rubber, explosives, plastics, other chemicals and special petroleum products are well represented in the third edition of the Condensed Chemical Dictionary, just off the press. Also included among the 18,000 items listed in its 750 pages by brand name, or otherwise described, are many of the new synthetic chemical products derived from petroleum.

The standard form of listing of individual items is continued from earlier editions. This gives the chemical definition of the product; color, properties and other characteristics; derivation; uses in commerce and industry; containers in which it can be shipped and shipping regulations. A new feature is the inclusion of typical specifications. These have been secured from manufacturers and represent a description of the product as commercially marketed.

Considerable additional information is given for some of the widely known new products, as, for example, synthetic rubbers. Some of this data has been supplied by contributors, among which are several oil company authorities. Information is also given on some of the new chemicals which have completed the pilot plant stage of development but are not yet being manufactured commercially.

The listing in the dictionary of the so-called chemical specialties (sold under trade name or brand name) which was introduced in the second edition, has been greatly expanded in the new book. All told, over 6000 new items have been added. Wherever necessary, the publishers state, the 12,000 old items have been brought up-to-date by general or partial revision.

The Third Edition of Condensed Chemical Dictionary sells for $12 and can be purchased through the Book Department, NATIONAL PETROLEUM NEWS, Cleveland.

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APRIL 15, 1942

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Growing Role of Synthesis in Supplying Vital U. S. War Needs from Petroleum

THE increasingly important role being assumed in the petroleum refining industry by the unsaturated hydrocarbons produced by synthetic methods, and the substances available from them, is emphasized in the program for the coming meeting of the Petroleum Division of the American Chemical Society. The program is to be presented April 21, at Memphis, in connection with the general meeting there April 20-24 of the Society.

Petroleum is the logical source for an increased supply in the U. S. of a number of new products vital to the nation's war effort, it is shown in one paper in the program. The paper lists among products of this nature: aviation gasoline, explosives, natural rubber substitutes, war gases, pharmaceuticals, solvents, lubricants, plastics and resins.

The petroleum industry has "gone scientific from top to bottom" is the comment in the paper of another speaker. He goes on to say that this has been accompanied by a most significant change in the management and technical personnel of the industry, in that distinctions are no longer made between practical men and scientists.

"The vast changes and present technical position of the industry has been due mainly to the stimulus of the development of cracking processes," comments this author, Benjamin T. Brooks, New York, consulting chemist, "to the effect of the first World War on the industry and to the great increase in the research and technical personnel on the staffs of the all major companies."

The exchange of technical information and the publication of results has been the general rule among oil companies, his paper states, this being made possible up to now by the protection afforded by our patent system. "Serious weakening or radical change in our patent system would greatly change this," it states.

The only source of adequate supplies of synthetic rubber in this country is the petroleum industry, says this author, but he makes it plain the responsibility for assuring that the necessary requirements of substitute rubber are forthcoming is entirely with the government.

Another paper, taking an economic point of view, to be presented at the meeting of the A.C.S. Petroleum Division is entitled "Substitute Fuels, a War Economy of World Dimension", by Gustav Egloff and P. M. Van Arsdell, Universal Oil Products Co., Chicago. It discusses the development of motor fuels from other sources developed in Axis-controlled nations, to make up for their deficiency in petroleum.

Hydrogenation of coal by the Bergius and carbon monoxide by the Fischer-Tropsch process has been responsible for 43% of the oil used by Germany for war purposes, it is brought out. Other substitute fuels, compressed gases, alcohol; wood- and coal-burning automobiles, trucks, buses and boats; shale and miscellaneous fuels have not been as important in military usage as the liquid fuels, but they are used exclusively by the civilian population since no liquid fuels are available, it is stated. Altogether, the substitute fuels and petroleum have made 122,700,000 bbls. of fuel available to the Axis country.

At the end of 1941, this paper estimates, there were a total of 107,225 compressed gas vehicles, which released approximately 2,553,000 bbls. of liquid fuels, and a maximum of 373,143 producer gas vehicles in use in Europe, which saved about 7,780,000 bbls. of oil fuel. Approximately 13,222,000 bbls. of benzol and alcohol were produced on the European continent in the same period and 233,200 bbls. of shale oil had been produced. Sweden and Spain plan to produce greater quantities of shale oil from their undeveloped resources.

Chairman of the A.C.S. Petroleum Division the past year has been J. K. Roberts, director of research, Standard Oil Co. of Indiana. Secretary is Cary R. Wagner, director of research and development, Pure Oil Co., now on leave of absence in Washington as head of the process and research branch of the refining division of the Office of Petroleum Coordinator. The president-elect of the American Chemical Society, taking office in 1943, is an oil man, Dr. Per K. Frolich, director of the Chemical Division, Esso Laboratories of Standard Oil Development Co.

Following are abstracts of the technical papers to be presented April 21, at the Memphis meeting of the A.C.S. Petroleum Division, as prepared by the Society:

"Influence of Sulfur Compounds Upon Octane Number and Lead Susceptibility of Gasolines": Julian G. Ryan, Shell Oil Co., Inc., Wood River, Ill.

Antiknock characteristics of gasolines are impaired by the presence of sulfur compounds to an extent dependent upon hydrocarbon structure and sulfur type. Susceptibility to tetraethyl lead as affected by structure of sulfur compounds has been investigated quantitatively. A relation which is independent of hydrocarbon composition has been established between concentration of various sulfur types and lead susceptibility. This mathematical expression permits accurate evaluation from group-sulfur analyses of the improvement obtainable by partial or complete desulfurization, the effect of gasoline-sweetening methods, and the effect of blending stocks of similar hydrocarbon composition but different sulfur contents.

The effect of sulfur compounds upon octane number in the absence of tetraethyl lead varies with size and structure of the hydrocarbon portion of the molecule as well as the sulfur type.

"Isolation of Sulfur Compounds from a California Straight-Run Gasoline": O. L. Polly, A. C. Byrns, and W. E. Bradley, Union Oil Co. of California.

The present investigation was undertaken to examine a product obtained by treating high-sulfur naphtha with anhydrous aluminum chloride at ordinary temperature. Aluminum chloride was found to remove sulfur compounds practically quantitatively in the form of a heavy fluid sludge, which was readily separated from the naphtha. Hydrolysis of the sludge liberated an oil which analyzed 20 per cent weight sulfur. Seventy per cent of the oil boiled in the original naphtha range. Close-cut fractions of this material yielded several thiopanes identical with those previously reported in the literature. Improved methods of segregating individual sulfur compounds are reported.

"Oxidation Characteristics of Lubricating Oils. The Relation Between Stability and Chemical Composition": G. H. von Fuchs and H. Diamond, Shell Oil Co., Inc., Wood River, Ill.

Analysis of rate curves obtained by measurement of oxygen absorption has elucidated the effect of basic composition, methods of processing, and addition agents on the stability of oils. Oxidation characteristics are strongly influenced by interaction phenomena between different types of components.

Saturated hydrocarbons in an oil have a tendency to

rapid autocatalytic oxidation whereas aromatic compounds act as antioxidants by a mechanism of autoretardation. The balance between these opposing effects is strongly dependent on the reaction temperature. Under given conditions of temperature and metal catalysis maximum stability is observed at an intermediate (optimum) aromaticity.

Autoretardation differs from the action of conventional inhibitors. Reactions involved in the formation of saponifiable material (free, combined, and potential acids) may account for most of the oxygen absorbed by an oil. Results can be correlated with oil deterioration and lacquer deposition in engine tests.

"Some Additional Acids from California Petroleum": George Wash, Wm. O. Ney, Jr., W. Crouch, and H. L. Lochte, Department of Chemistry, Univ. of Texas.

In continuation of research on petroleum acids from California straight-run gasoline and kerosene *n*-octanoic, *n*-nonanoic, 2-methylcyclopentanecarboxylic, 3-methylcyclopentylacetic, and 2, 3-dimethylcyclopentylacetic acids were isolated and identified. This increases to six the number of naphthenic acids isolated from California petroleum by this group of workers.

"Surface Consistency Characteristics of Asphalts": E. C. Knowles and F. C. McCoy, The Texas Co., Beacon, N. Y.

The need for studying the surface consistency characteristics of asphalts, as well as the bulk flow properties, is pointed out. A modification of the A.S.T.M. asphalt penetration method which has been used to investigate consistency characteristics of asphalt surfaces ranging in thickness from 0.04 to 0.30 cm. is described.

The modified procedure is based upon the load in grams required to force the A.S.T.M. needle into the asphalt to a given depth in a constant time. This procedure avoids several shortcomings of the A.S.T.M. penetration procedure and has been identified as constant depth penetration.

Data are given to illustrate the application of constant depth penetration measurements to show the progressive increase of hardness of roofing asphalt in the accelerated weathering test. Data are also given to illustrate application of the method to the measurement of the effect of various storage conditions on surface consistency of asphalt, and from this work a storage test was set up at 125° F. whereby the tendency of asphalts from various sources to undergo surface hardening was determined.

The conclusion is reached that certain properties of asphalt surfaces can be studied by application of constant depth penetration measurements, and that the results supplement information currently obtained by bulk flow consistency measurements.

"Alkenes, Alkadienes, Alkapolyenes, Their Source and Production": Gustav Egloff, George Hulla, and Jacque C. Morrell, Universal Oil Products Co., Research Laboratories, Chicago.

Petroleum is the logical resource for an increased U. S. production of unsaturated hydrocarbons and substances obtainable therefrom, including aviation gasoline (neohexane, trimethylpentane, tetraethyl lead), explosives, natural rubber substitutes, war gases, pharmaceuticals, solvents, lubricants, plastics, and resins.

The principal production methods are: (1) thermal, (2) catalytic, and (3) electrical treatments of substantially individual alkanes, alkenes, cyclanes, and cyclenes, (4) cracking of petroleum, shale, coal, tars, and fats, (5) catalytic dehydrogenation of alkanes and alkenes, (6) polymerization of alkenes and alkadienes, (7) hydropolymerization of alkynes, and (8) the Fischer-Tropsch synthesis. Special processes include: (1) isomerization, (2) hydrogenation, (3) alkylation, and (4) depolymerization of hydrocarbons, and (5-13) interrelated decompositions of alkanols, alkenols, alkapolyenols, alkanediols, ethers, carboxylic acids, esters, quarternary ammonium hydroxides, and organometallic compounds. The alkapolyenes are generally obtained from animal and plant oils or by dehydration of alkapolyenols.

"Determination of Thiosulfate in Used Doctor Solution": Karl Uhrig and Harry Levin, The Texas Co., Beacon, N. Y.

A method is described for determining thiosulfate in used doctor solution. It is based on the observation that carbon dioxide precipitates the lead and simultaneously converts any sulfite present to bisulfite which subsequently is bound to formaldehyde to render it inactive toward iodine. Under these conditions, thiosulfate is titrated alone.

"Determination of Olefins in C_3 and C_4 Hydrocarbons": B. R. Stanerson and Harry Levin, The Texas Co., Beacon, N. Y.

A method is described for determining olefin content of C_3 and C_4 hydrocarbons by direct titration of sample condensed in cold chloroform. Bromine in glacial acetic acid is used for titration. The method has given satisfactory results on synthetic blends covering the complete range of unsaturation and is particularly suited for routine plant control purposes because of its simplicity and rapidity.

Hydrogen sulfide, mercaptans, and 1, 3-butadiene interfere and must be removed before analysis.

"Molecular Weights of Viscous Hydrocarbon Oils": Alfred E. Hirschler.

Molecular weights of lubricant fractions have been correlated with kinematic viscosities at 100° and 210° F., using a modified Keith and Roess chart, and with densities at 25° C. and the 210° F. viscosities. By combining these two charts a correlation between these four physical constants is developed whereby any two may be used to estimate values of the other two. Based on this chart, a simple equation has been developed for calculating the molecular weight from viscosity data, applicable to oils with viscosity indices between —50 and 140. The application of these charts to published data on lubricant fractions of petroleum and to synthetic hydrocarbons is discussed, and it is shown that previously proposed correlations of molecular weights with viscosity data are unsatisfactory for oils covering a wide range of viscosity-temperature characteristics.

"Critical States of Two-Component Paraffin Hydrocarbon Systems": F. Drew Mayfield, Phillips Petroleum Co., Bartlesville, Okla.

Empirical correlations of literaature data are presented by means of which critical temperatures, pressures, and compositions of two-component normal paraffin hydrocarbon systems can be predicted. Values calculated by means of these correlations are compared with existing published data on ten systems. Disregarding positive and negative signs for the errors, and excluding two systems, the average error for the calculated pressures is 13 pounds per square inch or 1.3 per cent, and the average error for the calculated temperatures is 6.4° F.

"Studies of the Physical Properties of Alicyclic Hydrocarbons. II. Boiling Points of Monocyclic Hydrocarbons": Gustav Egloff and Robert C. Kuder, Universal Oil Products Co., Research Laboratories, Chicago.

From a correlative study of over 300 alicyclic hydrocarbons not containing fused rings generalizations have been made concerning the variation of boiling point with structure. The following aspects are considered: branching of side chains, number of side chains, relative position of side chains, *cis-trans* isomerism, effect of introduction of double bonds (classified as to type), position of double bonds with respect to side chains, conjugation of double bonds, and effect of introduction of triple bonds. Where possible the generalizations made for alicyclic boiling points are compared with those already developed for aliphatic boiling points and alicyclic molal volumes.

Effect of Ignition Timing and Anti-Knock Quality of Fuel on Engine Performance*

By C. W. Phelps†, R. C. Heidner‡ and M. L. Smitley§

A slight retarding of the spark adjustment will be the only change needed in most cars, to enable them to perform satisfactorily on lower-octane number wartime motor fuels, it is indicated in the tests described here.

With engines with compression ratios in the neighborhood of 6.5 to 1, even "third grade" gasoline may be used satisfactorily by retarding the spark, the authors conclude, but a slight loss in performance, as measured by acceleration, will result. Engines with high compression heads (7:1 to 7.5:1) should run satisfactorily with retarded spark settings on regular or on good "third grade" without serious loss in performance.

ONE of the most important trends in automobile engine design during the last ten years has been toward higher compression ratios with resulting increases in fuel economy. But high compression ratios are satisfactory only when fuels of high anti-knock quality are used. Hence, increases in compression ratio followed, rather than led, an equally important trend in the oil industry toward gasolines of higher anti-knock quality. **The objects of the tests reported here were to obtain data showing the effect of the anti-knock quality of gasoline on the performance of a late model car on the road and to determine the importance to the motorist of this property of gasoline.

Fuels and Apparatus

Two secondary reference fuels O_5 and S_5 having C.F.R. motor method octane numbers of 40.4 and 78.0 respectively (furnished by the Standard Oil Co. of Indiana) were blended to give four fuels having octane numbers of 47.9, 55.4, 63.0 and 70.5 respectively. In addition, two brands each of "third grade", "regular", and "premium" gasolines were purchased at retail outlets. Equipment for rating these gasolines was not available, so approximate values of 68, 78, and 84 octane number respectively were assumed.

The automobile used was a 1940 model straight-eight coupe with all adjustments standard except for compression ratio and distributor setting.

An "optional" cylinder head having a compression ratio of 7.1:1 was used in all tests, except for one series with the commercial fuels where the "standard" head having a compression ratio of 6.5:1 was used. Both heads were nearly free of carbon at the start of the tests.

The distributor was clamped to a suitable control mechanism operated from the dash so that the driver could vary the spark setting at will. The automatic centrifugal spark control in the distributor was not disturbed. Thus, the absolute spark advance at each speed was the algebraic sum of the test setting and the value given in Table 1.

Table 1

Centrifugal—Automatic Spark Advance

Car Speed (M.p.h.)	Average Advance (Degrees)
10	0
20	4
30	7.5
40	11
50	13.5
60	15

Remote reading thermometers were placed in the upper hose connection and at the inlet to the air cleaner. A baffle was used on the radiator to control the cooling water temperature.

Test fuel was supplied from cans in the car through tubing connected to a two-way valve at the fuel pump inlet.

All tests were run on a straight, level concrete road.

Procedure

The car was driven until all temperatures reached equilibrium with the radiator baffle adjusted to maintain the water temperature in the upper hose connection between 180 and 185° F. Then, with the engine supplied with the fuel to be tested, the spark setting was adjusted until a "trace" knock was observed, when the car was accelerated with wide open throttle. ("Trace" knock might be defined in this case as the lightest knock which was plainly audible in the driver's compartment to the two observers who conducted the tests.) This spark setting was considered to be the most advanced one which the average motorist would tolerate when using this fuel.

The performance of the car was then determined by measuring the time required to accelerate with wide open throttle from 10 to 60 miles per hour as read from the speedometer. Several such runs were made on the test course in each direction and the results averaged.

This procedure was repeated for each fuel tested.

Results—Spark Advance vs. Octane Number

The nominal spark setting for "trace" knock (Fig. 1)

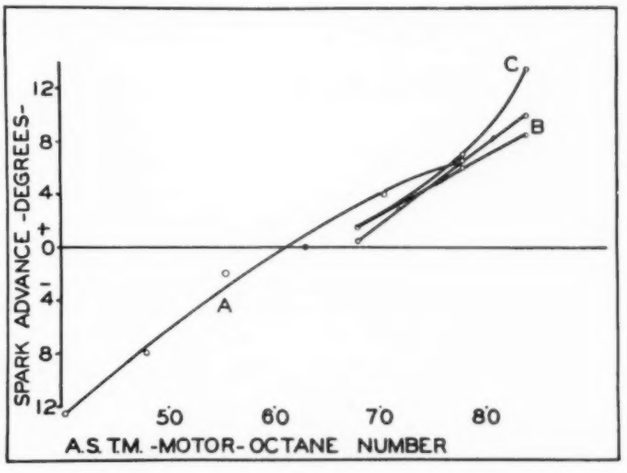


Fig. 1—Nominal spark setting for "trace" knock

*The tests reported here were run in the fall of 1940, in conjunction with a comprehensive fuel test program under the direction of Professor H. M. Jacklin, and form part of the graduate work of R. C. Heidner and the undergraduate work of M. L. Smitley in the Mechanical Engineering School of Purdue University. The data were presented by M. L. Smitley before a meeting of the Indiana Section of the S.A.E. at Indianapolis, Indiana, April 11, 1941.

†Instructor in Mechanical Engineering, Purdue University.

‡Graduate student in Mechanical Engineering, Purdue University.

§Senior student in Mechanical Engineering, Purdue University.

**Boyd and Lovell: TRENDS IN AUTOMOBILE DESIGN MATCH EVOLUTION IN FUELS. Paper before the Twenty-first Annual Meeting of the American Petroleum Institute, Chicago, Nov. 15, 1940.

appears to vary nearly directly with the octane number of the fuel in the range tested. This is true for the optional head (7.1:1 compression ratio) with the two series of commercial fuels (curves B) as well as with the reference fuels (curve A). The same trend is shown (curve C) with the standard head (6.5:1) except for the "premium" fuel data. (The respective spark settings for the two series of commercial fuels were identical with this head.)

The car manufacturer's manual recommends a standard setting of between 2 and 6 degrees advance. This range falls between the "third grade" and "regular" gasoline when using either cylinder head and between approximately 65 and 76 octane number with the reference fuels and the optional head. With clean engine and standard spark setting, knock-free operation with this engine is indicated by the data if "premium" gasoline is used but slight to trace knock should be expected with regular gasoline.

The spark advance for "trace" knock with the "premium" fuels and the standard head is so large (13.5 degrees) as to suggest that the anti-knock quality of these fuels is too high to be fully utilized by the engine when equipped with this head. This does not seem to be true for the optional head, however, as it is likely that the spark advance for maximum power in this engine is but a few degrees, if any, less than that required for trace knock with the "premium" fuels. In contrast to this, the reference fuel data show that even the poorest fuel tested (40.4 octane number) can be used with this head if the spark setting is retarded sufficiently (12.5 degrees after dead center.)

Results—Acceleration Time vs. Spark Advance

The wide open throttle performance of the car as measured by the time required to accelerate from 10 to 60 miles per hour varies but little with changes in nominal spark setting in advance of dead center but falls off rapidly as the spark is retarded from dead center. (Fig. 2) The

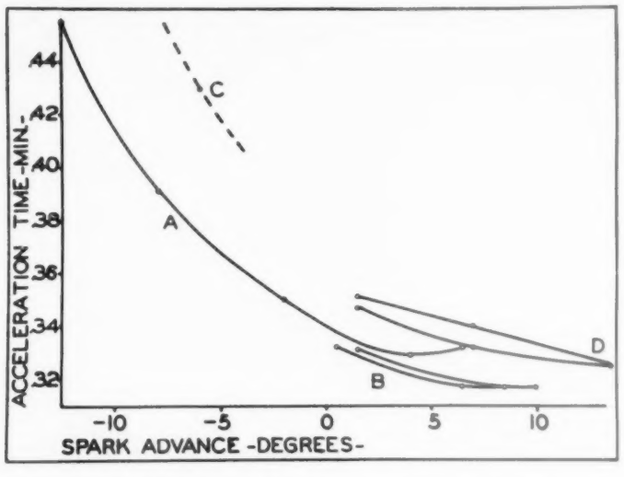


Fig. 2—Effect of spark setting on acceleration time

reference fuel data (curve A) and the commercial gasolines data (curves B) obtained with the optional head show that the average acceleration time for spark settings at dead center or beyond was a maximum of 0.34 minutes at dead center and a minimum of 0.318 minutes at 10° advance; i.e. a reduction in time of only about 6.5% over a range of 10° spark setting change. This reduction becomes only about 4.2% in the range from 0.5° to 10° advance considering the commercial gasolines only (curves B). In contrast to this, the reference fuel data show an increase in acceleration time of about 22% when the spark is retarded 10° as compared with the time for a spark setting at dead center.

The commercial fuel data with the standard head (curve D) show the same trend as those obtained with the optional head but are from 2 to 6% larger. This is to be expected since a theoretical analysis of the internal combustion engine cycle will show that efficiency, and, therefore, power output in a given engine, decreases with a decrease in compression ratio.

The point shown (c) for a reference fuel blend with the standard head suggests that a retarded spark setting may impair the performance with this head even more than the same setting would that with the optional head.

Results—Acceleration Time vs. Octane Number

The time required to accelerate from 10 to 60 miles per hour increased as the anti-knock quality of the fuel decreased. (Fig. 3) This increase was not great (less

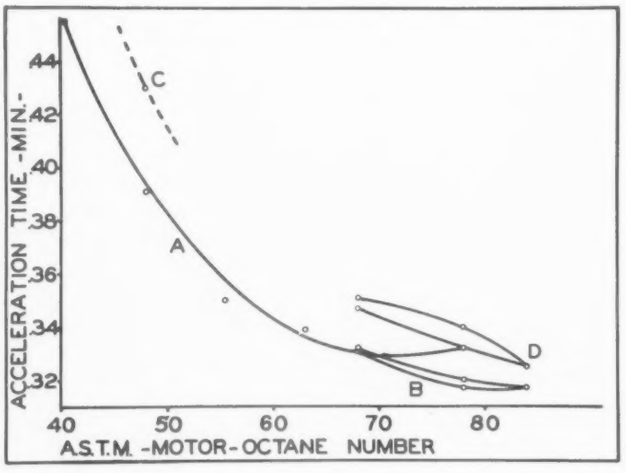


Fig. 3—Effect of antiknock quality of fuel on acceleration time

than 5%) in going from "premium" to "third grade" gasoline (with the optional head, curve B); but it became very pronounced when reference fuels of lower than about 65 octane number were used (curve A). All data were obtained with spark settings for "trace" knock in each case (see Fig. 1). Thus, they show the importance of fuel anti-knock quality as a factor in determining the performance of a modern engine, since more advance spark settings in each case would have resulted in excessive detonation without much, if any, gain in performance.

The two brands of commercial gasolines were almost equal in performance and spark setting requirement for "trace" knock. The differences shown are so slight in most cases as to be insignificant.

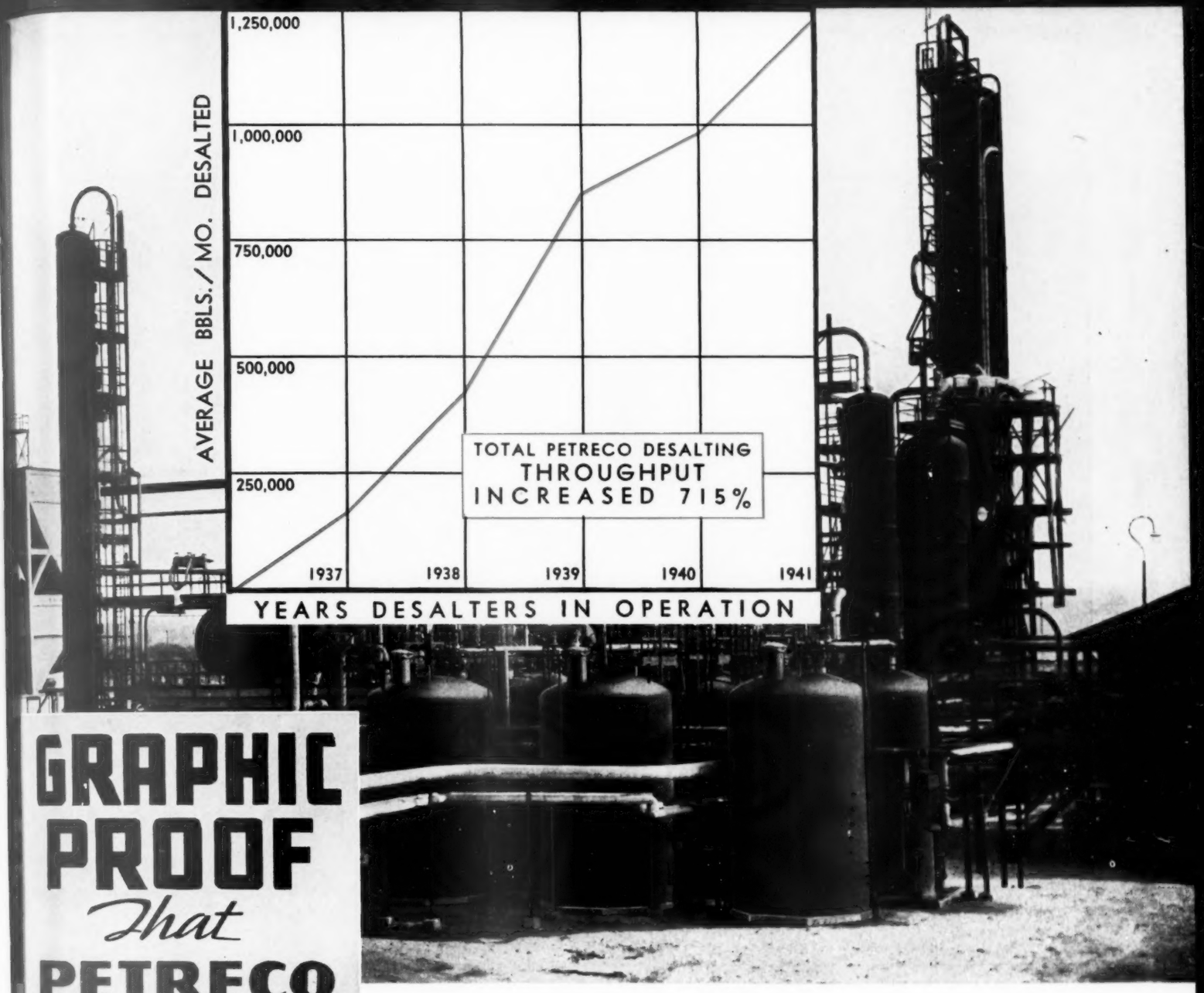
Conclusions:

Both the octane requirement and the wide open throttle performance of modern automobile engines are dependent on the spark timing.

Fuels of low anti-knock quality may be used without excessive detonation if the spark setting is retarded sufficiently; but the resulting performance will be correspondingly low.

It is probable that most automobile engines with compression ratios in the neighborhood of 6.5:1 and standard spark settings will run on "regular" gasoline with only slight knock and, therefore, do not need "premium" gasoline unless absolutely knock-free operation is desired. Even "third grade" gasoline may be used satisfactorily by retarding the spark a few degrees but a slight loss in performance will result. Engines with so-called "high compression" heads (7:1 to 7.5:1) may require "premium" gasolines for best performance but should run satisfactorily with retarded spark settings on "regular" or even good "third grade" gasoline without serious loss in performance.

If war conditions make necessary a reduction in the anti-knock quality of gasoline, a slight retarding of the spark adjustment would be the only change needed on most cars to make them perform satisfactorily on this lower octane number fuel.



GRAPHIC PROOF *That* PETRECO ELECTRIC DESALTING INCREASES REFINING EFFICIENCY

In 1937 one of the large eastern refining companies installed a battery of Petreco Electric Desalters in one of their refineries. The benefits of desalting . . . reduced corrosion, plugging and coking . . . longer on-stream time . . . lower maintenance costs . . . so definitely increased the refining efficiency that five additional Petreco installations were made in other of their refineries, ultimately increasing the number of barrels of oil desalted from approximately 170,000 to a million and a quarter barrels per month.

Refinery men can appreciate the significance of the above graphic indication of Petreco Desalting performance. It is obvious that these Petreco Desalters "paid off" in increased refining capacity. Production for war requires the highest efficiency possible . . . and now, more than ever, maximum on-stream time and protection against corrosion and metal losses are vital to refining efficiency. Petreco engineers are always available for an accurate survey of your desalting problem. This service involves no obligation.

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

General Offices: Los Angeles, California

Gulf Coast Division: Houston, Texas — *Eastern Division:* Toledo, Ohio

Representatives In Principal Oil Fields and Refining Centers

PETRECO

DESALTING DEHYDRATING

729.6
729.7
729.9

Alkylation unit producing aviation gasoline

Trend in Aviation Gasoline Processes Toward Fuels of Fewer Compounds*

The new processes for supplying wartime aviation gasoline requirements, by which selected hydrocarbons are manufactured, of higher octane value and in the desired boiling range, are shown to be developments in the trend to produce fuels of smaller numbers of hydrocarbon compounds, which will provide for control of combustion for maximum power output of engines. Among these new commercial processes of great importance are polymerization, alkylation, dehydrogenation and isomerization.

The ideal fuel, states this authority, would be a single hydrocarbon, which would give far greater power output than any of today's gasolines, which contain hundreds of hydrocarbons, each competing for the oxygen available.

"What this may mean for the future of air transportation is difficult to predict," it is stated, "but fuels of far greater anti-knock properties are possible, as well as more efficient engines and plane designs, tremendous speeds and airplanes carrying 1000 or more passengers."

Following is a portion of an article entitled "Modern Motor Fuels", by Gustav Egloff, Chicago, Universal Oil Products Co. research laboratories, which originally appeared in the Journal of Chemical Education, of the American Chemical Society, December, 1941, which describes the role of the polymerization, alkylation, dehydrogenation and isomerization processes in this trend. The earlier portion of this article (omitted) describes the desired characteristics of motor fuels in general and the thermal and catalytic cracking processes. Figs. 1 and 2, flow diagrams of a combination crude-topping and catalytic cracking process, and of the hydroforming process, have been omitted.

By Gustav Egloff**

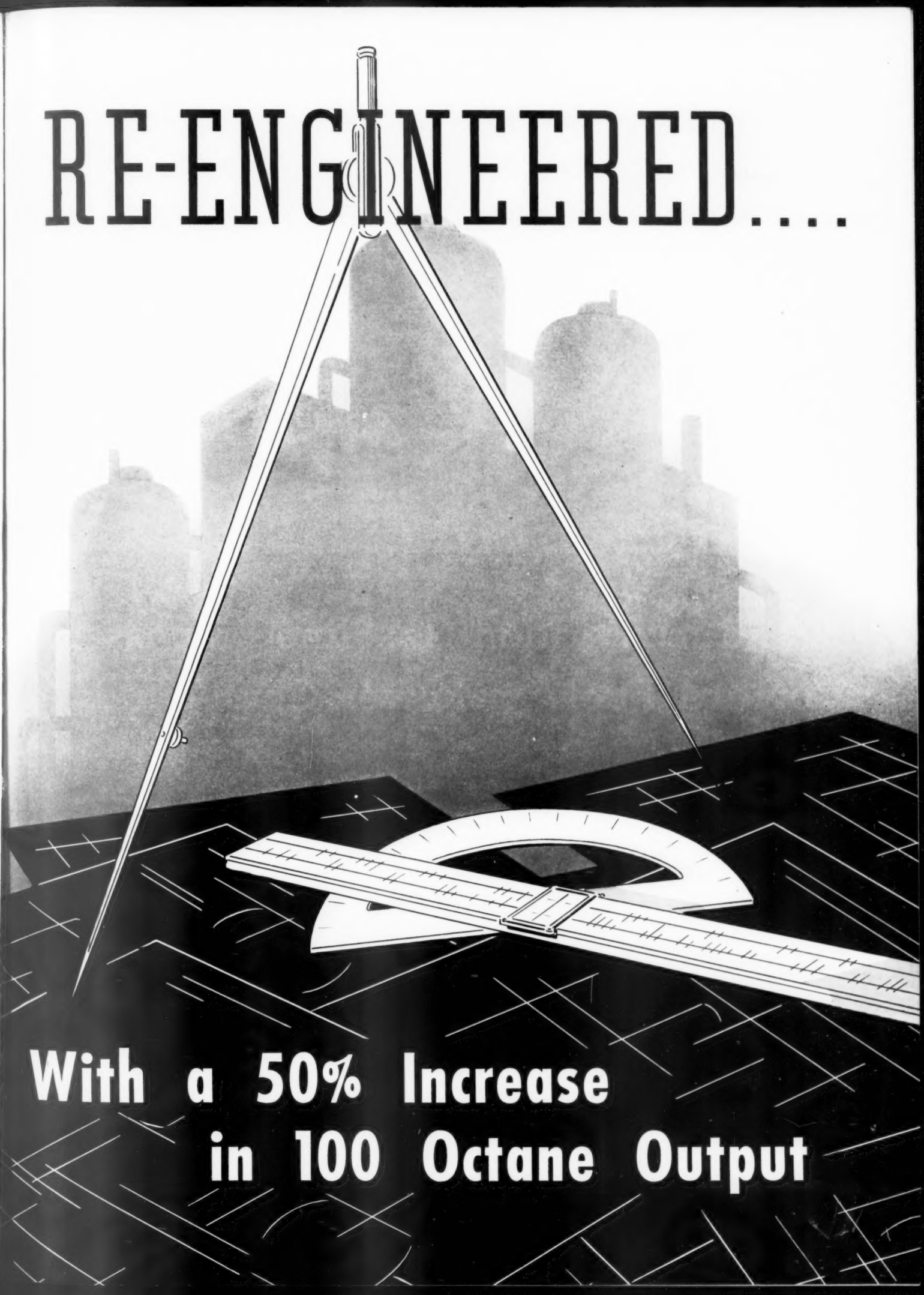
IT WAS recognized for some time that gasoline produced by thermal cracking had about reached its practical commercial limits in octane rating, yet motor and airplane designs were calling for increasingly better fuels, due to the demand for engines of higher and higher compression. As the octane rating was increased, the temperatures of cracking were also raised, yielding gases containing higher percentages of olefins. Over 350 billion cu. ft. of these gases had been used each year in heating the crude and cracking stills.

There is a process now in commercial use for the production of gasoline, which has erroneously been called "polymerization," but which is really a thermal "cracking" of propene, propane, butenes, and butanes, at 650° C. and pressures varying from atmospheric to 1000 lbs. per sq. in. Maximum conversion to gasoline does not occur with this process, due to the fact that cracking is more readily accomplished than polymerization at these temperatures and pressures.

It was shown some years ago by Ipatieff that olefins present in the gases could be polymerized commercially into gasoline of 80-octane rating in the presence of "solid phosphoric acid" at 200 p.s.i. and 200°C. Approximately 125 catalytic polymerization units have been installed up to Nov. 1, 1941, varying in capacity from 125,000 to 27,000,000 cu. ft. of cracked gas per day. Fig. 3 illustrates such

*This is a portion of an article by this author originally published in the December, 1941, Journal of Chemical Education, of the American Chemical Society, under the title, "Modern Motor Fuels".

**Universal Oil Products Co., Research Laboratories, Chicago.


RE-ENGINEERED....
With a 50% Increase
in 100 Octane Output

A 4000 Barrel per day plant Becomes a 6000 Barrel per day 100 OCTANE REFINERY

XXX XX XX XXXX
XXXXXXXXX XXXXX
XXXXXXXXXXX XXXX X XXXXXXX XXXX XXXX
XXXXXXXXXXX XX XX

My dear XXX XXXX:

XXXX XXXXXXX XXXXXXX XXX XXXX XXXXXXXXX XX XXXXXXXXXX XXXXXXXXXX XXX X XXXXXX.

We wish to compliment you on the engineering of this job and thank you for the patriotic viewpoint which you used.

There must be many other refiners who could profit by your example in abandoning peace-time standards and designing new units from a defense standpoint. May we suggest that a paper presented before the API, ASME or ACS would be of wide interest.

Thank you for your cooperation.

Sincerely yours,

XXXXXX XX XXXX,
XXXXXXXX XX XXXXXX

WORKING in co-operation with the engineers of a prominent refining company, Lummus recently re-designed a proposed plant . . . co-ordinating some of the latest developments in 100 octane production . . . with the result that

★ output of the new refinery will be 6,000 barrels per day . . . 100 octane gasoline . . . instead of 4000—an increase of 50%.

★ initial investment cost — despite increased capacity—is materially lower than that of the plant originally proposed.

★ the new refinery, now under construction, includes:

Polyform and Gas Reversion unit
Alkylation and Isomerization units
Modernization of an existing alkylation plant
Toluol plant
5 gasoline re-run units
Acid treating plant
Copper sweetening unit
All tankage, utilities and yard piping

THE LUMMUS COMPANY, 420 Lexington Ave., N. Y.

600 So. Michigan Avenue, Chicago, Ill.
2315 Tangley Road, Houston, Tex. Florida, 671, Buenos Aires, Argentina
70 Barn Hill, Wembley Park, Middlesex, England

LUMMUS

PETROLEUM REFINING PLANTS

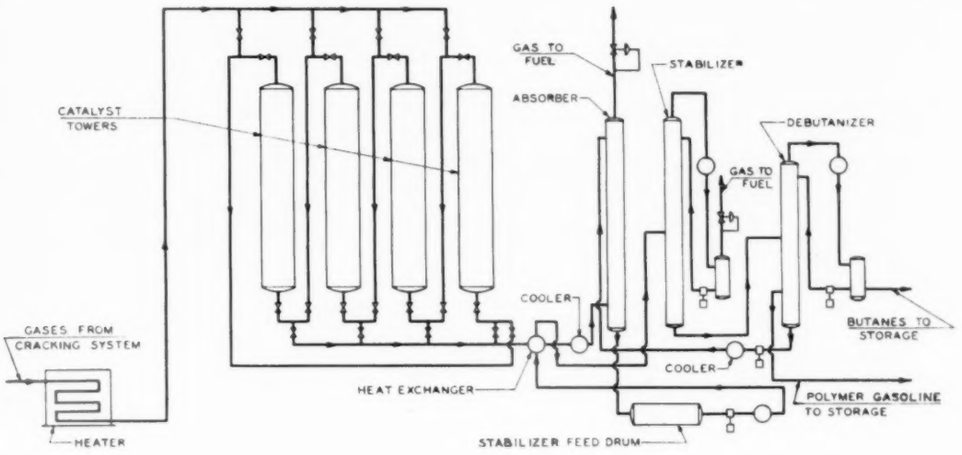


Fig. 3—Flow diagram of catalytic polymerization unit

a unit. In commercial operation hydrogen sulfide, amines, mercaptans, and other impurities are removed before processing the gases, since the solid phosphoric acid catalyst is poisoned by such compounds. The yield of polymer gasoline in these plants ranges from four to over nine gallons per thousand cubic feet of cracked gas, depending on the olefin content.

Motor fuel of 100-octane rating was first manufactured by polymerization and hydrogenation. Butanes and butenes were fractionated from cracked gases and subjected to a cold sulfuric acid catalyst to polymerize the isobutene to diisobutene, which upon hydrogenation produced isooctane.

In the "hot" sulfuric acid polymerization process, both normal butenes and isobutene combine to yield isooctenes; upon hydrogenation isooctanes are produced. The butane-butene fraction from cracked gases is thoroughly mixed with sulfuric acid until the butenes have polymerized. The reaction is exothermic, and cooling is necessary in order to maintain the temperature at about 85°C. The initial hydrocarbons are allowed ten to fifteen minutes' contact time with the acid, after which the polymer is neutralized with caustic soda. The resulting octenes have an octane rating of 84. Upon hydrogenation the octane number rises to approximately 95-octane since the hydrocarbons are isoparaffins instead of isoolefins.

The conditions employed for the selective polymerization of the butenes into isooctenes are 150°C. and 700 lbs. per sq. in. when "solid phosphoric acid" is used. The isooctenes have an octane rating of 84 and when hydrogenated to isooctanes show octane ratings of 95 or higher. When manufacturing isooctanes by the selective polymerization process, a hydrogenation step is necessary in order to produce the isoparaffinic compounds. Low pressure hydrogenation is carried out at 150°C. and 75 lbs. per sq. in. in the presence of a nickel catalyst. Close temperature control is necessary since the reaction is exothermic. A flow diagram is shown in Fig. 4.

Alkylation of Paraffins by Olefins

Ipatieff was the first to show, through a series of fundamental reactions, that a paraffin unites with an olefin in the presence of a catalyst. This alkylation principle has gone into commercial use, which is important for the production of aviation gasoline. The alkylation of isobutane with olefins produces isoparaffins called "alkylate," of 91- to 95-octane rating, and which boil within the aviation gasoline range (40°-150°C.).

The alkylation reaction has largely supplanted the isooctane process, for it doubles the yield of high octane aviation gasoline and eliminates the hydrogenation step. There are two types of alkylations, one thermal and the other catalytic. The thermal method of alkylation, on a selective basis, utilizes isobutane and ethene to form neohexane (2,2-dimethylbutane). The alkylation conditions are 510°C., and 3000 to 5000 lbs. per sq. in. High pressures are required in order to reverse the cracking tendencies resulting from the high temperatures to effect the paraffin and olefin juncture. The olefin concentration is kept low enough in relationship to isobutane (about 1:10) during this operation so that polymerization is suppressed. In this

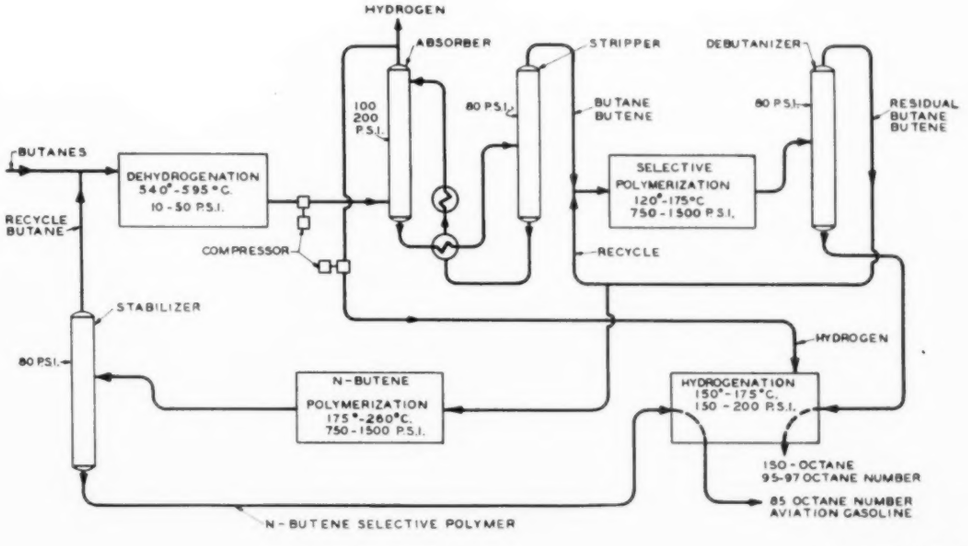


Fig. 4—Isooctane process via dehydrogenation - polymerization-hydrogenation

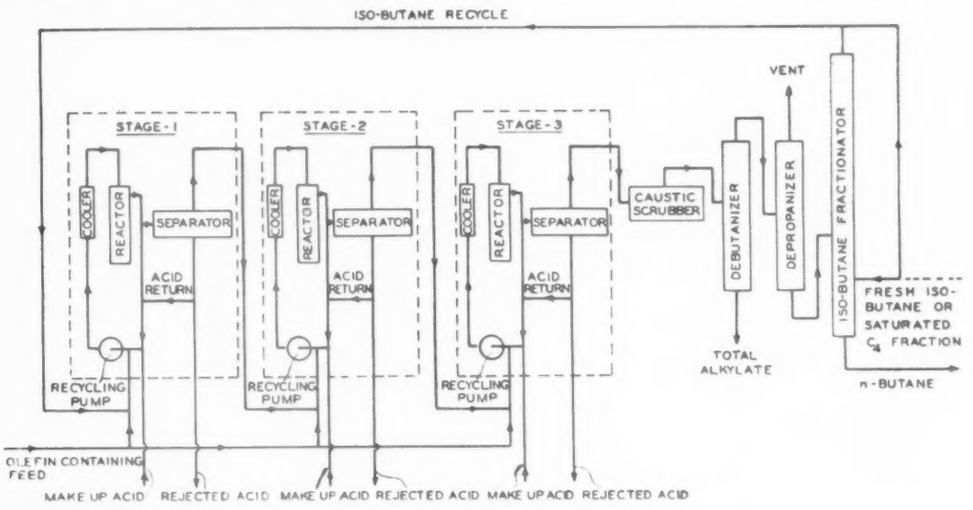


Fig. 5—Flow diagram of alkylation process

way a uniform product, neohexane, is formed by the combination of one molecule of ethylene with one of isobutane. Neohexane has an octane rating of 94, and is very susceptible to tetraethyllead addition for increasing the octane rating. The volatility of neohexane makes it suitable as a blending agent for isopentane, alkylates, isooctanes, and naphtha base stocks.

The catalytic type of alkylation shown in Fig. 5 is brought about by combining isoparaffins with olefins in the presence of sulfuric acid of 96 to 100 per cent concentration. Lower temperatures, from 0° to 10°C., are used in order to reduce oxidation tendencies of the hydrocarbons. The product obtained, called alkylate, is used as aviation gasoline, since it has an octane rating of 91 to 95, a high calorific value, and good lead susceptibility. If desired, the alkylation may be largely controlled so as to produce 2,2,4- and 2,2,3-trimethylpentanes.

Dehydrogenation of Gaseous Paraffins

Dehydrogenation of gaseous paraffinic hydrocarbons by means of catalysts has provided the refiner with another means of procuring the olefins to manufacture polymer gasoline, isooctane, and the various alkylates. The process uses chromium oxide on alumina as a catalyst, although other oxides of metals of the periodic groups IV, V, and VI are also suitable. The temperatures range from 500° to 750°C. with pressure of one atmosphere. Charging stocks are either butanes, propane, or a mixture of the two. In this description the mixture consists essentially of butanes. Before passing into the catalyst chamber, the butanes are heated to the reaction temperature. The reactors are provided with heat exchangers in order that the temperature may be closely controlled.

As the dehydrogenation reaction continues the catalyst gradually loses its activity, due to deposits of carbonaceous materials, and after one hour or so the catalyst must be reactivated by burning off the carbonaceous matter in a hot stream of oxygen-containing gas.

The products from catalytic dehydrogenation are butenes, hydrogen, unconverted butanes, and small amounts of methane, ethane, ethene, propane, and propene. The ultimate yield of butenes on a recycling basis is over 90%. The dehydrogenation process is of extreme importance, for it makes possible the recovery of large quantities not only of butenes but also, by a further dehydrogenation step, of butadiene for synthetic rubber.

Isomerization of Normal Paraffins to Isoparaffins

Among the newer commercial processes of exceeding importance is that of isomerization of normal butane to isobutane, the key hydrocarbon in alkylation. In the manufacture of select hydrocarbons, isomerization ranks in importance with alkylation, dehydrogenation, and polymerization. Isomerization, shown in Fig. 6, of normal to isobutane occurs at 175°C., and 35 lbs. per sq. in. in the presence of anhydrous aluminum chloride and hydrogen chloride. The yield of isobutane from normal butane, resulting from one passage through the apparatus, is over 50%. When the unconverted normal butane is recycled, the yield is over 90%. The process also applies to the isomerization of normal pentane (64-octane rating)

(*Continued on page R-128*)

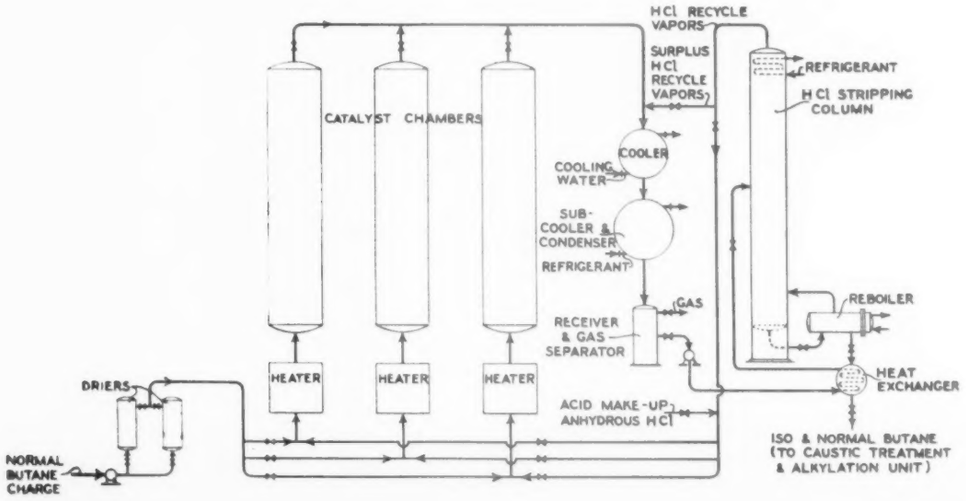


Fig. 6—Flow diagram of isomerization process

Refiners in war service

Today every refinery is a war plant Every refining unit is a weapon and the men who operate it are serving their country as truly as a gun crew

Every refiner is striving to make each unit in his plant deliver its utmost in yield and quality of desired products—in time on stream

Skilled management in many refineries is getting remarkable results from Universal processes and Universal units

For instance:

Reid Brazell, vice-president of Leonard Refineries, Inc., Alma, Michigan, reports a notable achievement in the following letter to Universal:

> Long runs by Dubbscracking units seem to be the order of the day At 11 a.m. on February 24, 1942, our Dubbscracking unit was shut down for a routine cleanout and inspection after having been on stream 3115 hours continuously The shutdown was not compulsory
>
> We operated during the run on 27 gravity topped crude charging stock, producing 59.99 per cent Dubbscracked gasoline and producing a 5 2 A P I gravity residuum

Our hearty congratulations to you, Mr Brazell, and to your men, on this remarkable performance

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

THE REFINERS INSTITUTE OF PETROLEUM TECHNOLOGY

Abstracts from Current Literature

"Mobilizing Petroleum Hydrocarbons"

By George F. Fitzgerald, chemical engineer, in Chemical & Metallurgical Engineering, March, 1942.

A summary is given of sources of supply of butane and iso-butane in natural gasoline and gas recycling plants of the Southwest. Existing absorption plants, by modernization and improved supervision, could make available upwards of 30,000 bbls. per day of additional butane, this author states. The decline in domestic motor fuel consumption, with a reduction of its butane content, could release almost twice as much more butane. This, together with savings resulting through the systematic reduction of waste, would make available from 90,000 to 125,000 bbls. per day of butane mixtures in less time and more economically than by building entirely new plants. "The technical problems involved are by no means difficult", it is stated. "The chief obstacle is the time element in erecting sufficient rectification and absorption equipment to modernize existing plants and augment their output."

The heavy losses encountered in converting butanes to alkylates and hydrocodimers for aviation fuel are recognized, and it is stated that, on the basis of an approximate 60% overall yield, 75,000 bbls. per day would be sufficient for 45,000 bbls. of high-octane blending agents for 100-octane number aviation fuel. (The author is assuming the total need for 100-octane aviation fuel of 180,000 bbls. per day announced at the time his article was written, of which approximately 90,000 bbls. would be 80-100 octane blending agents, of which in turn approximately half would come from alkylates and hydrocodimers.)

By difference then, going back to the 90,000-125,000 bbls. additional of butane mixtures described above, it is stated, there should be 15,000-45,000 bbls. per day of butane available for rubber production. The production within the next 18 months of 400,000 tons per year of synthetic rubber is said to be equivalent to a theoretical consumption of 11,000 bbls. of butane per day. Actually, the high conversion losses and side reactions might bring the ultimate demand close to 35,000 bbls. per day, or close to the working balance of the supplies from the sources outlined above. If much additional butane were required, it would be necessary to build additional butane recovery plants and further restrict civilian supply. This author refers to experiments in the manufacture from propane of acetylene as another source of butadiene.

★ ★ ★

"Pyrogallol Derivatives as Gasoline Antioxidants"

By W. L. Scheumann and John H. Haslam, Cities Service Oil Co., Bartlesville, Okla.; Industrial and Engineering Chemistry, April, 1942.

Since gum inhibitors in general are added to gasoline immediately after it has been treated, at which time it often has suspended in it small particles of water, the relative solubilities of the antioxidants in water and gasoline are of great importance and must be considered along with their inhibiting effectiveness. Many phenols which are powerful antioxidants are unsatisfactory from a solubility standpoint. Pyrogallol is of this type of gum inhibitor, its 3 hydroxyl groups causing it to be easily extracted from gasoline by water; consequently it has not been extensively used commercially.

These solubility characteristics of pyrogallol can be remedied to some extent, these investigators found, by the addition of alkyl groups to the molecule. Their work investigated the gasoline antioxidant properties of 5-alkylpyrogallols and their 1,3-dimethyl ethers. The size of the alkyl group was found to greatly affect the inhibiting power of both the pyrogallol and its di-ether, but in opposite directions. As the alkyl group on the di-ether became larger, the inhibiting effectiveness increased, but an increase in size of the alkyl group on pyrogallol decreased its effectiveness. When the alkyl group contained 4 carbon atoms or less, the pyrogallol was the more effective inhibitor, but when the alkyl group contained over 4 carbon atoms, the 1,3-dimethyl ether was the more effective. The 1,3-dimethyl ethers were found to have much more advantageous solubility characteristics than the corresponding pyrogallols.

A method is described for isolating 5-methyl- and 5-propylpyrogallol-1,3 dimethyl ethers in pure form from hardwood distillates.

★ ★ ★

"Oil Filters for Internal Combustion Engines"

By C. W. Smith, T. B. Johnson and E. L. Munter; Bulletin 334, *Agricultural Experiment Station of the Univ. of Nebraska College of Agriculture.*

Conditions affecting the efficiency of commercial crankcase oil filters for internal combustion engines are discussed in the light of data from extensive experiments conducted on 30 filters, mostly commercial types.

With large filters a noticeable reduction in oil sump temperatures was found, the filter acting like a small radiator. Both very high and very slow rates of flow of oil through the filters were found to have disadvantages and the general statement is made that 1500 grams per minute is a desirable rate of flow. "This statement can be made only in the most general manner," it is stated, "because it is apparent that doubling the size of the filter may double the actual rate of flow and still maintain the same relative rate of flow". Rate of flow should also increase with size of engine. Location of the orifice for regulating rate of flow through the filter was also found important.

Special apparatus and testing procedure was devised and the following analyses made to determine condition of the oil: Spot test (dark spot or discoloration from a drop of oil on filter paper); per cent light transmission; per cent insoluble in precipitation naphtha; per cent insoluble in carbon tetrachloride; per cent carbon residue; per cent sediment by centrifuge; Indiana oxidation; viscosities at 3 temperatures; A.P.I. gravity; neutralization number; pour point; per cent dilution; flash point, fire point.

Drainings from Lincoln Traction Co. buses were used for dirty oil in the tests and new oils used were commercial SAE 40 and 50 bus oils, the former having a Saybolt viscosity of 75-95 secs. at 210° F. and the latter of 90-95 secs.

★ ★ ★

"Heat Exchangers and Cooling Towers and their Application to Compressor Plant Installations"

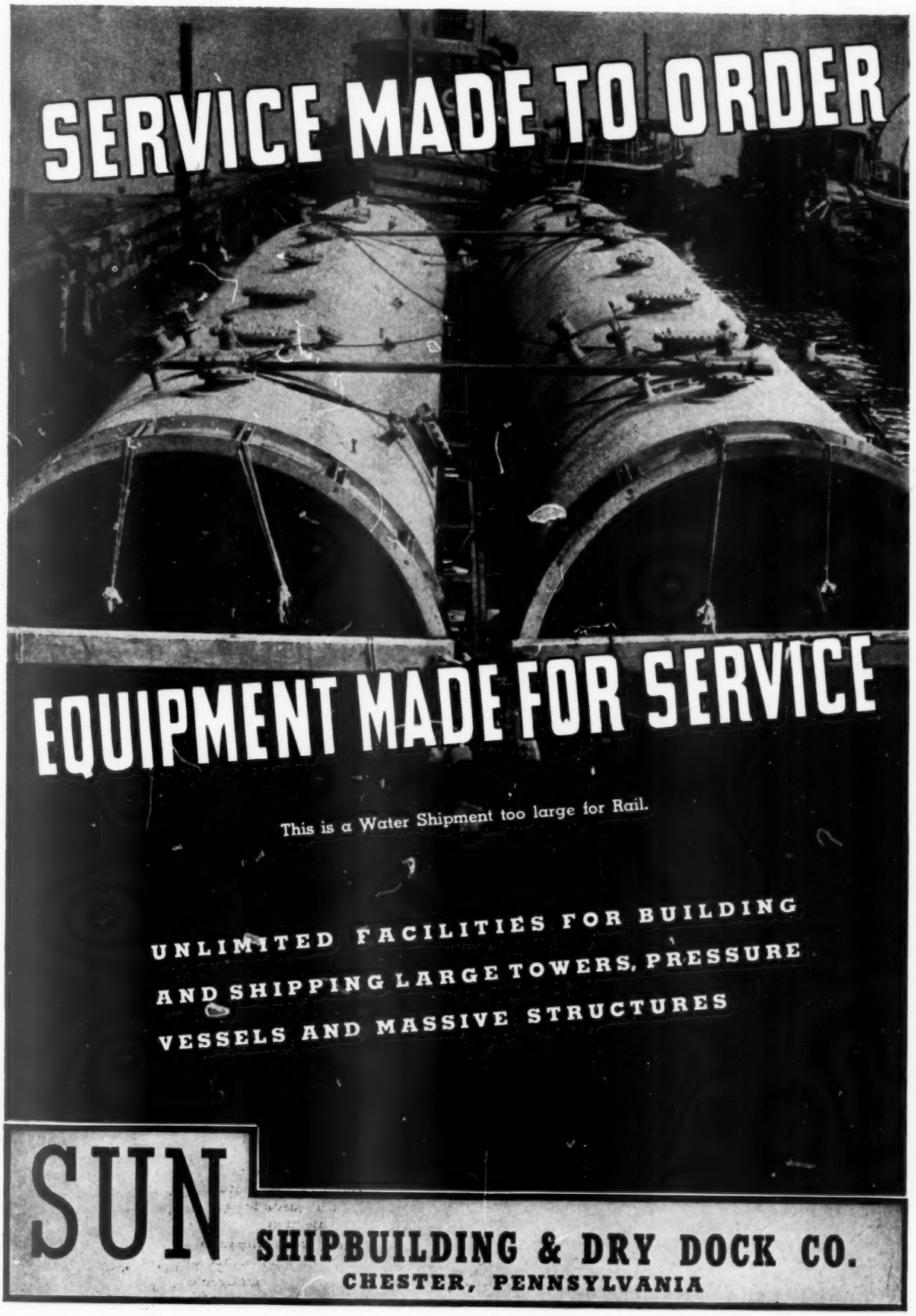
By W. E. Dunn and Hugh R. Lamberth, the Fluor Corp., Los Angeles; Presented before Eastern District, A.P.I. Division of Production, Pittsburgh, April 10, 1942.

The use of heat exchangers and cooling towers in compressor plants generally covers engine and compressor jacket water, lubricating oil, and gas cooling.

Cooling systems are classified as (1) open circulation systems, which include (a) raw water systems, (b) recirculating systems employing either open ponds, spray ponds, spray towers, atmospheric or mechanical-draft towers or (2) closed circulation systems in which the substance to be cooled is passed through heat exchanger equipment and there cooled by water, air, or other medium.

Atmospheric deck towers are the most acceptable for

(Continued on page R-126)


SERVICE MADE TO ORDER
EQUIPMENT MADE FOR SERVICE
This is a Water Shipment too large for Rail.
UNLIMITED FACILITIES FOR BUILDING
AND SHIPPING LARGE TOWERS, PRESSURE
VESSELS AND MASSIVE STRUCTURES
SUN
SHIPBUILDING & DRY DOCK CO.
CHESTER, PENNSYLVANIA

Abstracts from Current Literature

(*Continued from page R-124*)

compressor plants, having high efficiency, flexibility, high capacity, and economy. Mechanical-draft towers have higher first costs but are compact, efficient and independent of natural air movement.

The heat exchangers for closed systems are of three types (1) pipe coils, (2) open or atmospheric cooling sections and (3) closed or shell and tube exchangers. Of these the open type is most generally used in compressor plants, depending on good water distribution and air movement.

★ ★ ★

"Consistency of Lubricating Greases and Oils at Low Temperatures"

By Gus Kaufman, The Texas Co.; presented before the Ninth Annual Meeting, National Lubricating Grease Institute, published in the N.L.G.I. Institute Spokesman March, 1942.

A knowledge of the properties of lubricating oils and greases at low temperatures is becoming more important, in view of the present extreme demands placed upon lubricants in military operations and other essential services. The usual method of expressing characteristics of mineral oils at low temperatures by stating the viscosity at the particular temperature as obtained by extrapolation from viscosities at higher temperatures, and the so-called static torque tests for greases on anti-friction bearings at low temperatures, is termed unsatisfactory under certain conditions. The author describes a method by use of the A.S.T.M. Penetrometer, modifying the published test method (D 217-38T) by varying the weight of the cone and moving parts. Penetrations thus arrived at are said to give a definite picture of consistency and a fair relative measure of how hard or how soft materials are at any temperature desired.

Comparing napthene versus paraffin base mineral oils, concludes the author, in the case of low viscosities, the pour point seems to be the controlling factor, since the naphthenic oils which have lower pours are much softer at low temperatures (e.g.—25° F.) than corresponding viscosity paraffin oils in spite of the much higher Viscosity Index of the latter. "Therefore, Viscosity Index is not necessarily a criterion of low temperature consistencies," it is stated.

In the case of higher viscosities (e.g. 90/210° F. Saybolt Universal) naphthenic oils are much harder than the corresponding viscosity paraffinic oils at low temperatures, even though the pour points may be approximately the same, which is said to indicate that the viscosity effect is responsible for the hardening with these oils.

"The pour point of an oil is not necessarily the criterion of low temperature consistency", it is stated, "since two oils having the same viscosity and the same pour points may have entirely different consistencies at low temperatures."

It was found that lubricating greases made from low viscosity oils show the least change in penetration with reduced temperatures in comparison with the high viscosity oils. With the same A.S.T.M. penetration at 770° F., and the same mineral oil, the type of soap does not appear to have a marked effect on the low temperature penetration. In the case of greases semi-fluid at room temperatures, indications were found that the addition of small amounts of soap may result in products having consistencies at low temperatures even softer than the mineral oil which was used in making the grease. It was concluded that lubricating greases offer an inexpensive means of obtaining products of extremely high Viscosity Index, or rather flat consistency-temperature characteristics.

Lion Contracts to Operate Government Ammonia Plant

Additional information on the many ways in which the refining and research and development departments of oil companies are serving the nation's war program is given in the annual reports of The Texas Co. and of the Lion Oil Refining Co. (Statements from 4 other companies were published in Refining Technology April 1, p. R-99.)

Additions to sulfuric acid alkylation plant capacity and to its facilities for manufacturing high grade lubricants were made by Texaco in 1941, its annual report shows. It also states company has a government contract to erect a plant to produce toluene.

Negotiations have been concluded by Lion Oil Refining Co. whereby it will supervise construction of and will operate a government plant to manufacture anhydrous ammonia and ammonium nitrate from natural gas, states Col. T. H. Barton, president, in the annual report of that company. Portions of these 2 reports are given below:

Texaco

"In 1941, through new facilities and improvements and additions to its existing sulfuric acid alkylation plants, the company substantially increased its capacity to manufacture high octane aviation gasoline. Additional sulfuric acid alkylation plants are now being constructed, thus increasing the company's ability to manufacture this important product of national defense.

"The company's capacity to manufacture high grade lubricants is also being increased.

"A plant will be constructed by the company under contract with the government, for the purpose of producing toluene, an important wartime chemical used in the manufacture of TNT. It is also anticipated that the company will supply the raw materials for the manufacture of butadiene from petroleum products."

Lion

"Negotiations carried on for more than a year have recently been concluded," said this company's report, "whereby a plant for the manufacture of anhydrous ammonia and ammonium nitrate from natural gas will be erected in the vicinity of El Dorado, Ark. This plant, which is to be known as the Ozark Ordnance Works, will require a government expenditure of several million dollars; and, when completed, is to be operated by Lion Chemical Corp., a wholly owned subsidiary formed for the purpose of fulfilling this task. The basis of operation is what is known as cost plus a fixed fee.

"The management is now negotiating with government officials on other defense projects, some of which by reason of such valuable possessions as trained personnel, adequate raw materials and geographic location, should be carried to successful conclusion.

"The federal government has provided means whereby all such plant facilities will be fully financed by the government or its agencies."

A catalytic polymerization and absorption unit was added to the refinery of this company near El Dorado, which permits improvement of the quality of gasolines by increasing octane values and utilizes refinery still gases to the fullest extent. A new research laboratory was built in 1941.

A combination pressure maintenance and natural gasoline plant in the Jones Sand pool of the Shuler field of South Arkansas was completed last year. The pressure maintenance side reinjects into the formation, to maintain flowing pressures, the natural gas produced with the oil and the natural gasoline side strips the gasoline from the gas before reinjection.

Concerning this company's contribution to the war program, Col. Barton said in his annual report:

"The company's management became convinced early in 1941 that the best interests of all concerned would be served by becoming associated, so far as practicable, direct-

[Another advertisement telling how different American industries are speeding up wartime production]

We've got to stretch it
TO WIN THE WAR

Taylor Instruments are helping fill America's wartime rubber needs

AMERICA needs rubber enough to go round. We've got to stretch our national stock of rubber, because the war has already cut us off from 97% of our normal rubber supply. We need rubber to fight this modern war.

To make sure we get it, America's great rubber industry is relying on Taylor temperature and pressure control instruments to do the vast job faster and better. Taylor Instruments insure precision exactness—automatically safeguard complicated operations—speed up the whole involved process. They are vital necessities to our wartime rubber program.

Here's some war work Taylor Instruments are doing. They help produce:

BETTER NATURAL RUBBER . . .

Within the next few months, production of U. S. Signal Corps assault wire will be stepped up 300%. This latex-covered copper wire, so fine that one man can carry ¾ of a mile of it, is used to lay battlefront communication lines. It must be tough, sturdy, micrometer-exact in size, 100% reliable. It is cured by specially designed equipment completely controlled by Taylor Instruments.

Bomber tires, like the 8-foot, 1000-pound giants on the 82-ton Douglas B-19 planes, have to be cured precisely right to stand the terrific impact of landing. They are now out of the experimental stage, in full production. Taylor coordinated control systems govern the exact curing process that gives them strength.

Gas mask production has jumped to millions of masks per year. The face-covering part, molded in one piece, can now be produced on a 24-hour schedule with the help of Taylor Flex-O-Timers to control the sequence of operations.

Rubber-lined, leak-proof gas tanks for planes, scarcely known a few months ago, are now produced by thousands. Taylor Instruments are steadily being added to help increase this mounting output.

BETTER SYNTHETIC RUBBER . . .

A large part of all synthetic rubber production is controlled by Taylor Instruments. Fact is, synthetic rubber could not be produced without the close control insured by such instruments. The first synthetic "pilot plants" were Taylor-equipped—the tremendous commercial plants use Taylor Instruments. They will help boost synthetic rubber production from 40,000 tons last year to the 600,000-ton yearly total America must achieve.

BETTER "RECLAIM" RUBBER . . .

The production of "reclaim" rubber has almost doubled—skyrocketing from 200,000 to 350,000 tons annually in two years. It will keep on rising, because Taylor Instruments help assure the exact time and temperature schedules of "reclaim" de-vulcanizing processes.

With the help of Taylor Instruments, *every* American industry can be geared to the "go" that will win the war. Taylor Instruments will help *you* produce more, produce better, save time, and save manpower. All through industry, Taylor Instruments have given faithful service for years. Depend on them in these war times. Depend on the "know how" of Taylor engineers to show you how to squeeze the last vital ounce of efficiency from your existing production equipment. Your country needs *producers*—that's why *you* need Taylor Instruments. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada. Makers of the famous "Not 1 but 5" Fulscope Controllers.

★ **KEEP ON BUYING U. S. DEFENSE BONDS AND STAMPS** ★

Taylor

Indicating Recording Controlling

TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS

ly with the Defense Production Program. There are many ways in which this may be accomplished aside from the production and sale to the government of such vital products as gasoline, diesel fuels, lubricating oils, fuel oils and asphalt. Derivatives of petroleum and natural gas are used in making war necessities, among them being explosives and synthetic rubber.

"By making the company's facilities available to the Defense Program, everyone — employe and stockholder alike—who is unable to join the armed forces is doing his utmost in the war effort; and, even though there is little or no profit remaining from these activities after taxes, they serve the further purpose of preserving the operating personnel of the company intact for the future."

Socony-Vacuum Oil Co., Inc.

This company announced in its annual statement that new catalytic methods had been developed for treating base stocks for 100-octane gasoline produced by the Houdry process which reduce the amount of alkylate required by 60% or more. Its report stated as follows:

"The Houdry process used by this company for catalytic refining is proving to be so important in the aviation gasoline program that it merits this brief special discussion.

"Reduced to its simplest terms, aviation gasoline consists of a blend of two types of specially produced high grade gasoline, plus tetraethyl lead. One of these two types is called alkylate, which is manufactured from two petroleum gases; it is expensive to make and the supply is limited. The other is called base stock, which heretofore has generally been a straight-run gasoline from a limited number of crude oils.

"By the Houdry process a base stock of high quality can be manufactured from ordinary crudes. Originally, this made possible a 17% reduction in the amount of alkylate required to make 100 octane number aviation fuel. In the past year, however, new catalytic methods of treating Houdry base stock have been developed which reduce the amount of alkylate required by 60% or more. This reduction in the alkylate requirement substantially increases the amount of aviation gasoline obtainable. Moreover, the finished gasoline will meet special performance tests for fighting planes."

INDEX TO ADVERTISERS

Refining Technology Section

(*See also page 51*)

This index is published as a convenience to the reader. Every care is taken to make it accurate, but National Petroleum News assumes no responsibility for errors or omissions.

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Chicago Bridge & Iron Co.
Erie Bolt & Nut Co.
Erie Enameling Co.
Filtrol Corp.
Gasoline Products Corp.
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Trend in Aviation Gasoline Processes Is Toward Fuels of Fewer Hydrocarbons

(*Continued from page R-122*)

to isopentane of 91-octane number; likewise for normal hexane, etc.

In spite of the progress in "tailor making" aviation gasolines, they are still mixtures of various hydrocarbons. These hydrocarbons are studied carefully in order to give the proper characteristics to the aviation fuel, other than the 100-octane rating.

Blending agents for the production of aviation fuels of 100-octane rating are: isopentane, special naphthas from selected crude oils, naphthas from the hydrogenation of gas oils, special straight-run and catalytically cracked gasolines, isomerized naphthas, and three ml. of tetraethyllead per gallon. The amount of isopentane used varies from 10 to 15%, depending on the vapor pressures of the isooctanes and aviation straight-run fuels, since the volatility of aviation gasoline must meet rigid specifications.

The following is a typical blend for 100-octane fuel:

Component	Per Cent
Aviation base gasoline	40
Alkylate	50
Isopentane	10
Tetraethyllead	3 ml.

All military planes of the U. S. A. and Great Britain use 100-octane fuel.

The importance of gasolines of high octane rating for airplanes is strikingly shown in the performance of 87-octane compared with 100-octane fuel in a bombing plane, particularly as to speed, rate, and time of climbing, maximum ceiling, and maneuverability of the plane. It has been reported that the German invasion of England in September, 1940, was stopped by the R.A.F. because their fighting planes were powered by 100-octane fuel, while the German planes were fueled with 87-octane gasoline. Table 6 shows these factors on a comparative basis.

TABLE 6

Relative Performance—Koohoven FK59, Two-Seater Reconnaissance Bomber, Bristol Mercury XV

Aircraft	87-Octane	100-Octane
Max. speed at 2750 r.p.m.	236 m.p.h.	260 m.p.h.
Altitude for max. speed	15,700 ft.	17,300 ft.
Cruising at 60% max. power	192 m.p.h.	211 m.p.h.
at height of	15,700 ft.	17,300 ft.
Rate of climb at sea level	1490 ft./min.	2180 ft./min.
Rate of climb at 6500 ft.	1630 ft./min.	2360 ft./min.
Rate of climb at 13,000 ft.	1730 ft./min.	2540 ft./min.
Rate of climb at 19,500 ft.	1220 ft./min.	2050 ft./min.
Time of climb to 6500 ft.	4.2 min.	2.9 min.
Time of climb to 13,000 ft.	8.0 min.	5.6 min.
Time of climb to 19,500 ft.	12.3 min.	8.3 min.
Time of climb to 26,000 ft.	19.4 min.	12.2 min.
Service ceiling	31,800 ft.	35,700 ft.
Absolute ceiling	32,800 ft.	36,700 ft.
Engine		
Maximum output	830 h.p.	1050 h.p.
Maximum power height	14,450 ft.	15,580 ft.

The largest bombing plane in the world is the U. S. Army B-19. This plane carries an 11,000-gal. tank for fuel of 100-octane rating. There are four Wright Duplex Cyclone air-cooled engines each of 2200 horsepower. This plane is capable of carrying 18 tons of high explosives, or transporting 125 fully armed men with a crew of ten to operate the plane.

As has been shown, the modern trend in petroleum refining is increasingly toward catalytic reactions of many types. A good reason for this lies in the fact that catalytic reactions may be precisely controlled to produce specific products and in many instances are easier and cheaper to operate than the old type thermal-pressure reactions. A further advantage lies in the fact that single hydrocarbons of high gasoline quality may be obtained. The tendency is to produce gasolines consisting of fewer hydrocarbons, so that combustion can be controlled to a nicety for maximum power output of the motor. The ideal would be a single hydrocarbon giving far greater power output than any of today. Combustion could then be controlled to an exactness impossible with today's gasolines, which contain hundreds of hydrocarbons each competing for the oxygen available. The results are not conducive to high efficiency.

What this may mean for the future of air transportation is difficult to predict, but fuels of far greater anti-knock properties are possible, as well as more efficient engines and plane designs, tremendous speeds, and airplanes carrying 1000 or more passengers.

Oil TRANSPORTATION

Transportation 'Critical', P.I.W.C. Committee Reports

NPN News Bureau

WASHINGTON—Critical nature of the oil transportation shortage was indicated by these findings reported during week ended April 11 to Petroleum Industry War Council by its economics committee:

Non-tanker deliveries to the East Coast by the end of 1942 will reach 845,000 bbls. daily, yet estimated demand in this area for all products will be at rate of 1,300,000 bbls. daily.

Effective carrying capacity of ships in the East Coast service is now down to about 450,000 bbls. per day, or about 30% of normal tanker deliveries.

By end of 1942, the country's war effort may well require the diversion of virtually all of the industry's tankers.

Overland Hauls Estimated

Estimate of non-tanker transportation to the East Coast during the last quarter of 1942 was broken down as follows: tank car, 667,000 bbls. daily; pipeline 119,000 bbls. daily; and barge, 59,000 bbls. daily.

Approximately 39,000 tank cars are now in service to the East Coast. This is expected to reach 52,500 by mid-June. However, this does not mean a proportional increase from the 525,700 bbls. daily that reached the East Coast by rail during week ended April 4. While origin of the eastern movement has been, roughly, divided between Districts 2 and 3, added shipments will come largely from Texas and the Gulf Coast, increasing the average turn-around time.

Question of the rails' ability to handle the scheduled volume of tank car movement also arises as the peak load of war movement approaches, the P. I. W. C. committee pointed out.

Pipeline Program Proposed

Rearranging and supplementing of existing non-tanker facilities will not be sufficient to provide tanker substitute deliveries to make the East Coast independent of tanker transportation, even under a program of severely curtailed consumption, the committee said.

"The most effective means to provide such complete independence is large pipe line construction to make crude or products from District No. 3 available to the East Coast," committee asserted.

* * *

OPC Gets Recommendation For 2 Pipelines to East

NPN News Bureau

WASHINGTON—Building of two large pipelines, one a crude line and the other for products, from Texas to the East Coast were included in a pipeline program recommended to Office of Petroleum Co-ordinator.

To reduce amount of steel required, yet make at least a portion of the lines available as quickly as possible, it was urged the project be undertaken in this order:

1. Build a 20-inch line from Texas to Salem, Illinois. Use it for crude.

2. Build a 24-inch line from Texas to Salem, Illinois, use it for crude and convert the 20-inch line to products.

3. Build a 20-inch line to the East Coast from Salem, hooking it on to the 24-inch line from Texas.

4. Build a 24-inch line from Salem, Illinois, to the East Coast. Hook it up to the 24-inch line from Texas to Salem, Illinois. Convert the 20-inch line to products, hauling from Texas to the East Coast via Salem, Illinois.

By building the 2 projects this way, step by step, instead of all at once, the monthly requirements of steel would be greatly reduced (40,000 tons of steel per month, according to one estimate).

Other pipeline products recommended in the report of the temporary joint pipeline subcommittee for Districts 1, 2 and 3 are:

A products line from Texas to Paducah, Ky.

Extension of Plantation (products) line 200 miles northward from Greensboro, N. C.

Construction of a line across Florida, but between what 2 points is undecided; several have been suggested, it is said.

Reversal of Tuscarora (New Jersey Standard), Susquehanna (Sun) and Keystone (Atlantic Refining) pipelines.

The products line to Paducah, on the Ohio River, would be built from reclaimed pipe from lines dug up elsewhere. From Paducah, products would be barged to the Pittsburgh area and from there piped to the East Coast through lines which are being reversed.

Tankers 'Uncertain'

"The future of tanker transportation is too uncertain", Mr. Davies said in commenting on these pipeline projects, "the need of fuel oil for the eastern war industries too great, for us to act on any other basis".

"Naturally the job will be tremendous", Mr. Davies continued, "involving as it does the actual taking up of existing lines, and in some cases, the relaying of pipe at places from 500 to 600 miles distant from where it was located originally.

"It's a job, however, that must be done. So far as this office is concerned, we are proceeding on the assumption that overland transportation must be built up to the point where it can meet—if necessary—all the minimum essential requirements of the Atlantic seaboard for petroleum and its products."

Most of these proposed pipeline projects "can and should be undertaken at once", Mr. Davies said. They will use varying amounts of 8, 10, 12 and 14-in. pipe, taken from existing facilities and then relaid from southwestern areas to Illinois and Mississippi River points. From combination of pipeline, rail and river barges can move crude and its products eastward.

Asks Higher Load Limits For Gasoline Trucks

CLEVELAND—Higher limits for gasoline truck loads were urged by Chairman McDonald of Georgia Public Service Commission, according to National Highway Users Conference. He said relaxation of load limits would be sought in Southern Governors Conference at Hot Springs, Ark., April 19-21. He named Alabama, Mississippi, Tennessee, and Kentucky as four states he thought should raise limits.

Texas Sets Rates For Oil Trucking At Railroad Level

Special to NPN

AUSTIN — Texas Railroad Commission has issued a rate schedule, effective April 10, fixing oil trucking rates comparable to those of railroads. The permits were the outgrowth of meetings here between truckers, oil companies, and commission representatives.

The oil industry itself has agreed that all shipments less than 100 miles must be made by truck, and as a matter of practice, all shipments within Texas of gasoline are going by truck. Thus hundreds of tank cars are being released for longer hauls from Texas to the East coast.

The commission's circular provides that when trucks move between points served by a rail line, the rail line charge shall apply; when moving between points not served by a railroad, the railroad mileage charge shall apply.

In some cases, the railroad freight charge is less between two specific points, than when based on a mileage charge.

California-Northwest Hauls By Truck Expected Soon

NPN News Bureau

LOS ANGELES—Truck hauls of petroleum products from California into the Pacific Northwest are expected to start within a week or 10 days.

Schedules are now being worked out, following issuance of temporary permits (*NPN April 8, p. 4*). As many as 500 to 600 trucks may be eventually involved in the movement, with about 100 large transports to be used at first.

According to original announcement of the plan, trucks would haul from California into the eastern sections of Oregon and Washington, with coastal areas supplied by rail and tanker. The plan called for truck rates comparable to rail rates, but one large trucking firm here states that an 8c per gal. rate would be necessary to "break even" on hauls from Los Angeles to Seattle compared with a rail rate of 5.87c per gal. Run from San Francisco to Seattle could probably be made for 6c, this trucker believes.

27 Carolina Jobbers Join To Form Trucking Company

NPN News Bureau

WASHINGTON — Twenty-seven jobbers in the Carolinas have joined in the forming of a common-carrier trucking company, Oil Freighters, Inc., to haul off Southeastern Pipe Line Co.'s terminals near Atlanta and Macon, Ga.

Their application (103534-TA) for a temporary operating permit is now before Division 5 of the Interstate Commerce Commission for action.

Normally, these 27 jobbers hauled in their own transport trucks from suppliers' ocean terminals at Wilmington, N. C., and Charleston, S. C. But the tanker shortage is drying up these terminals and these jobbers will have to look to overload sources of supply—principally the Southeastern pipeline.

'Proportionals' Bar Them

Southeastern's proportional rates filed with ICC require that only common carriers—rail or truck, in this case—may haul off of the pipeline. That barred the jobbers' trucks as they were privately-owned — private carriers. So, they decided to organize a common carrier trucking company of their own which would lease—and operate—their transports.

All of the participating jobbers—and any others that cared to—would use Oil Freighters to haul their supplies.

Would Free 500 Tank Cars

The 27 jobbers planned to put 37 trucks into the "pool." It was estimated that these 37 transports would move 150,000 gal. daily, or 4,500,000 gal. monthly, which would be the equivalent of more than 500 tank car shipments per month.

The corporation, Oil Freighters, will have an authorized capital of $10,000 of which $6000 has been subscribed, petition to ICC said. This capitalization is low, but is intended only to provide a fund large enough for normal operation of the company without investment in new equipment, petition explained. It is planned to lease all needed.

Firm's Officers Listed

Officers of the trucking corporation were listed, as follows: L. A. Odom, Spartanburg, S. C., president; G. L. Hughes, Spartansburg, S. C., vice president; and W. C. Hamrick, Jr., Gaffney, S. C., secretary and treasurer. These men are also directors. Other directors listed, were: L. F. Abernathy, Asheville, N. C.; L. L. Echols, Greenville, S. C.; W. L. Heinz, Columbia, S. C.; R. E. Littlejohn, Spartanburg, S. C.

Persons and companies from whom Oil Freighters proposes to lease tank trucks, were listed, as follows: Aby Oil Co., Asheville, N. C.; Willard Oil Co., Inc., Spartanburg, S. C.; Service Oil Co., Inc., Spartanburg, S. C.; Anderson Petroleum Co., Anderson, S. C.; Odom Oil Co., Spartanburg, S. C.; Wilson Gas and Oil Co., Lancaster, S. C.; Associated Oil Co., Greenville, S. C.; Moco Trucking Co., Concord, N. C.; Columbus Oil Co., Charlotte, N. C.; The Southern Oil Reclaiming Co., Anderson, S. C.; M. L. Lybrand, Wagner, S. C.; Adams Oil Co., Seneca, S. C.; Boyne's Transit, Seneca, S. C.; Yarborough Oil Co., Clinton, S. C.; Stockham Oil Co., Greenwood, S. C.; Citizens Oil Co., Gaffney, S. C.; T. P. Atkin, Troy, N. C.; Carolina Oil Co., Bishopville, S. C.; R. M. Housel, Kannapolis, N. C.; Brown Transit Co., Conover, N. C.; Setzer Transport, Conover, N. C.; H. A. Timmons, Laurens, S. C.; Ingram Oil Co., Sumter, S. C.; C. S. Schaub, Apex, N. C.; Tyson Transit Co., Wilson, N. C.; and F. O. Seagrave, Shelby, N. C.

Pure Oil Backs Plan

Among the "affidavits of necessity" filed with the ICC in support of Oil Freighters' application was one by Wills Crane, assistant to the traffic manager of Pure Oil Co.

Mr. Crane said The Pure Oil Co. "will welcome any new and additional tank truck service by common carrier that may be established" to haul off of the Southeastern Pipe Line Co.'s terminal at Chattahooche, Ga. (Atlanta) to certain counties in western portion of North and South Carolina, which he designated.

Truck Service Is Vital

If gasoline distribution in the Carolinas is "to continue without interruption," said Mr. Crane, "greater reliance must be placed on tank truck transportation, and for this reason it is important that every available truck be placed in service."

Oil Freighters' application for temporary authority (180 days) was signed by L. A. Odom, president. It was presented to the ICC by Paul E. Hadlick, Washington, attorney for the petitioner.

Arbitrary Distance Limits on Trucks Cannot be Set Wisely, Eastman Says

NPN News Bureau

WASHINGTON — Defense Transportation Director Eastman feels that "arbitrary standards" setting definite limits for rail and truck hauls cannot be set wisely, but believes tank trucks should be used instead of tank cars on short hauls.

In a speech prepared for delivery before the Atlantic States Shippers Advisory Board in Philadelphia, Pa., on April 9, Mr. Eastman referred more often to petroleum transportation than he has in any of his prepared public addresses since he became ODT director in January.

ODT Gets Proposal

Declaring that demands upon railroads for petroleum transportation would "continue to be in excess of their tank car capacity", he said, pipelines could be of little assistance to the rails without new construction or reconstruction, although plans to this end either are being worked out or contemplated.

He said it has been proposed that "definite limits be set to the hauls" which railroads and trucks are permitted to make, but it is "not a situation where arbitrary standards can with any wisdom be applied," because in many instances trucks can make long hauls more quickly and economically than railroads.

"There are, however, many clear cases which demand action. For instance, tank trucks should most certainly be used in place of tank cars for short hauls of oil and other liquids, and such substitution, I am glad to say, is now going on all over the country," Mr. Eastman added.

He said "I have been quite unable to comprehend" why WPB classed transportation with civilian supplies and later expressed the fear that WPB "in view of the enormous programs for armaments and ocean shipping, may make the mistake of taking a greater chance with domestic transportation than may be wise".

Thompson Lauds Proposal to Build Pipeline in Florida

Special to NPN

AUSTIN — Speaking of pipelines, Chairman Ernest O. Thompson of the Texas Railroad Commission believes one only 90 miles long would be an immense help right now in getting Texas oil to the East Coast.

Col. Thompson would put his pipeline across the state of Florida, right up at the neck. This pipeline, he said, would save 400 miles of dangerous waters for tankers going around the tip of the state and could be laid down quickly. Even if the Florida ship canal is built, he said, the pipeline would do wonders as a temporary structure while the canal is being finished.

On the east coast of Florida, tankers could take the oil out of the pipeline and head east through the coastal canal without even going into the Atlantic until they reached New Jersey, Col. Thompson said.

The railroad commission head also favors an overland pipeline from Texas to the East Coast.

Provisions of Senate Bill For Florida Pipeline

NPN News Bureau

WASHINGTON—A bill looking toward construction of a temporary pipeline and a 12-ft. channel from Withlacooche Bay, Fla., to the St. Johns River, Fla., has been introduced by Sen. Claude Pepper, Dem., Fla.

Bill, introduced March 31, provides that the pipeline would be operated as a "federal public service" and would include "such pumping stations, shore, offshore, terminal, transfer and other auxiliary works and facilities" as the President might decide are necessary.

Total cost of the two projects included in the bill, which was referred to the commerce committee, is $68,000,000. The bill would authorize an appropriation of that amount.

Truck Owners Are Urged To Rebuild Worn Parts

NPN News Bureau

WASHINGTON—Truck owners were urged to rebuild and repair worn parts instead of sending them to the junk yard by William J. Cumming, chief of the vehicle maintenance section of the Office of Defense Transportation in an address before a safety school for truck and bus operators at the University of South Carolina, Columbia, S. C., on April 7.

Heil 7500-gallon Trailerized Train, consisting of one 3700-gallon and one 3800-gallon single-compartment drop-frame Trailerized Tank.

ONE HEIL TRAILERIZED TRAIN

releases 28 tank cars in Chicago Switching District

Heil answers the emergency call for *release of more and more railroad tank cars* to long-haul service—with this lower-cost method for local hauling—in conformation with the order by Deputy Petroleum Coordinator Ralph K. Davies, asking for 2,000,000 bbls. of heavy fuel oil to be shipped from District No. 2 to District No. 1 in April.

On local hauls such as this one — in a congested switching district where tank-car movement is slow — and on longer highway hauls — Heil Trailerized Trains are going into service in all parts of the country, releasing vitally needed railway cars for long-haul routes.

This move helps all around — calls for no sacrifices. To build 28 tank cars — for example—would divert from war production 20 to 25 times as much steel as is needed for one Heil Trailerized Train doing the same work. Heil frameless construction saves material — decreases dead weight and increases pay load — makes a stronger, safer tank. *Your hauling cost per gallon is substantially less.* Steady repeat orders prove that Heil users get real satisfaction. Act today! Tear out and mail the coupon.

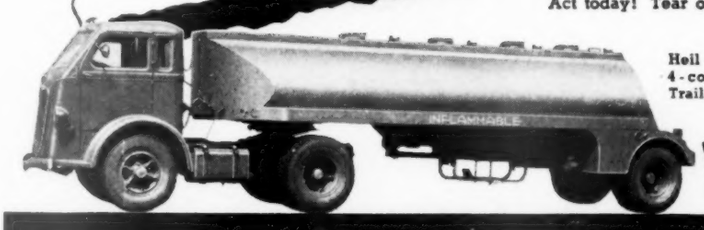
T-54

***Look at these operating figures for a typical week:**

A. WHAT 28 TANK CARS DID: Carried 280,000 gallons by rail (round trip about 50 miles) with average "turn-around" of 8.6 days per car.

B. WHAT ONE HEIL 8000-GAL. TRAIN DID: Operating 24 hours, averaged 4 round trips, or a total of 32,000 gallons per day. In the same period of 8.6 days, this would amount to 275,000 gallons—thus replacing the 28 tank cars. — and over 95% LESS steel is needed to build the Heil Trailerized Train!

*Name and address of operator furnished on request.



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HEIL ANSWERS UNCLE SAM'S CALL
... and helps the Arsenal of Democracy supply materials for Victory!

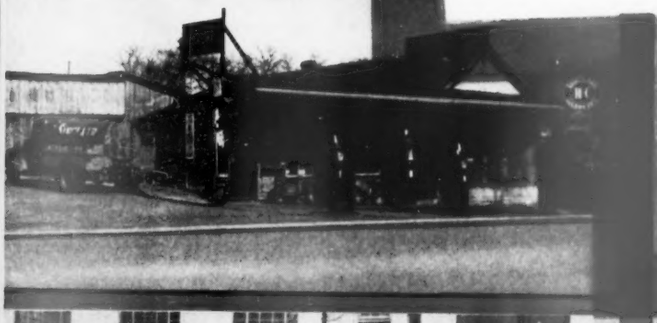
THE HEIL CO.

General Offices: Milwaukee, Wisconsin

NEW WAREHOUSE and West Side Service of Wagoner Gas & Oil, Sinclair Distributors, Routes 31-71 West Newton, Pa. (Below) Old warehouse on same site 7 years ago.

GALLONAGE UP 400%

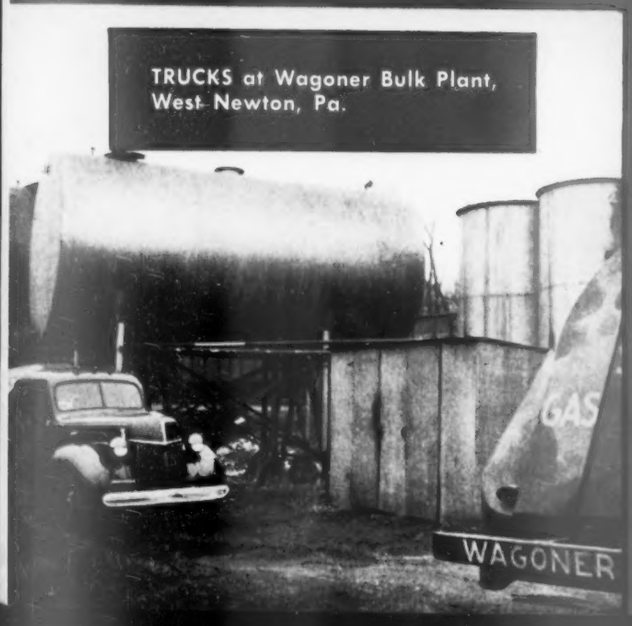
IN 7 YEARS WITH



WAGONER TRUCK at entrance to warehouse.

WAGONER SERVICE and offices of Wagoner Gas & Oil, 2nd & Vine Sts., West Newton, Pa.

TRUCKS at Wagoner Bulk Plant, West Newton, Pa.



For full particulars about the value of a Sinclair franchise, write the Sinclair office nearest you.

SINCLAIR

SINCLAIR REFINING COMPANY (Inc.) 630 Fifth Avenue, New York

2540 W. Cermak Rd. CHICAGO | 573 W. Peachtree St. ATLANTA | 1907 Grand Ave. KANSAS CITY | Fair Building FT. WORTH | 10 W. 51st NEW YO

GEO. H. WAGONER, of Wagoner Gas & Oil, Sinclair Distributors, West Newton, Pa.

RAY'S SERVICE, Wagoner outlet, Irwin, Pa.

EARL WILLIAMS & Son Service, Wagoner outlet, Homestead, Pa. *(Upper right).*

MAIN ST. SERVICE, Wagoner outlet, Monongahela City, Pa. *(Right).*

24 OUTLETS ADDED

SINCLAIR

GRAHAM'S SERVICE, Wagoner outlet, Elizabeth, Pa.

BARKER Tire & Battery Service, Wagoner outlet, Monessen, Pa.

ESSEY'S SERVICE, Wagoner outlet, Monessen, Pa. *(Below).*

WAGONER GAS and OIL

DISTRIBUTORS OF
PETROLEUM PRODUCTS

201 VINE STREET
WEST NEWTON, PA.
PHONE 324

March 9, 1942

Mr. J. M. Woodruff
Sinclair Refining Company
New York, N. Y.

Dear Mr. Woodruff:

Having noted with interest the successes reported by a long list of Sinclair Distributors, we take pleasure in telling you that the name of Wagoner Gas & Oil can be added to the roll.

We figured that we were teaming up with popular products and a good company when we changed to Sinclair some seven years ago. Our growth from 30,000 gallons monthly, then, to as high as 150,000 gallons monthly, today, and from 8 outlets to our present 32 outlets proves that we figured correctly.

Our old outlets increased their business and we began to take on new accounts right after having made the Sinclair connection. Sinclair brands were new to this section but we had rapid success in establishing them in many surrounding points — towns such as Monessen, McKeesport, Irwin, Monongahela City, and Donora -- some 16 in all.

To keep up with business expansion we recently completed what we believe is just about the finest and best equipped warehouse in this section. It has 11 underground tanks, including storage facilities for 2500 gallons of motor oil. It also has floor accommodation for our fleet of five trucks. In addition, the building houses a first class service station, and a tire recapping department.

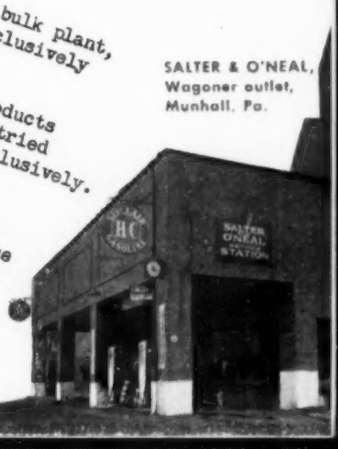
We have added two new storage tanks to our West Newton bulk plant, and one of our trucks operating out of this plant is kept busy exclusively on farm trade, a very nice end of our business.

We had a fine demonstration of the quality of Sinclair products when a sub-contractor using up to 100 trucks daily on Turnpike work tried various motor oils and dropped them all for Sinclair Pennsylvania exclusively. He said it was the one oil that kept his equipment on the job.

Our experience with Sinclair has been extremely satisfactory. In dealings with all kinds of companies we have found Sinclair one of the very finest -- helpful in every way, fair and square, and giving us consideration that would be hard for any other company to equal.

Very truly yours,
WAGONER GAS & OIL

Geo H Wagoner.



SALTER & O'NEAL, Wagoner outlet, Munhall, Pa.

Eastern Truckers Urge Halt On Short Hauls by Tank Car

NPN News Bureau

WASHINGTON—Shipment of trainloads of petroleum products direct to ocean terminals along the Atlantic seaboard, then fanning out deliveries to bulk plants by transport trucks, was urged as a means of releasing more tank cars for long hauls from the west.

Suggestion was made at meeting April 10 of East Coast for-hire petroleum transporters with Office of Defense Transportation. It came from several truckers whose business had been lost to the rails when the ocean terminals dried up due to the tanker shortage.

Practice now, according to these truckers, is for the trainloads to be broken up on arrival and individual cars dispatched to destinations. This short-haul movement by tank cars adds from one day to a week to the turn-around, they said. Use of trucks on the short hauls would save time and start the cars westward again several days sooner.

Office of Petroleum Coordinator apparently is aware of this situation earlier in the conference, attended by more than 100 truckers, Major J. R. Parten, OPC transportation director, had said that OPC was considering building several strategically-located terminals where trainloads could be unloaded.

In response to this, several truckers urged using present ocean terminals where tankage and other facilities are already available.

Rogers Presides

Meeting was presided over by John L. Rogers, ODT's motor transport director. Mr. Rogers outlined the difficulties facing truck operators, including lack of new trucks, tires and spart parts, and urged that they take care of their present equipment.

Mr. Rogers said that pooling of trucks would be adopted only as a last resort. "We won't take that step until it becomes evident that the operators won't co-operate to provide sufficient transportation to meet wartime needs," he said.

He assured the truckers that the ICC would not grant operating permits promiscuously. Wherever trucks are leased to another operator, "we will see to it that you are properly compensated," he added.

He said that it was not possible to get maximum utilization of trucks without some transfer of equipment, but expressed the hope that operators would work out such arrangements themselves without need for the ODT to step in. But he warned that this must be done—or else.

Trucks Over 100 Miles?

Fayette B. Dow, consultant to ODT Director Eastman on oil transportation, outlined scope of his activities.

Mr. Dow disclosed that recommendation had been made to the ODT that trucks be limited to hauls of less than 100 miles, as a corrollary to the OPC's directive that no tank cars be used on hauls of less than 100 miles. He did not know what the decision would be on this.

From truckers came suggestions for greater use of trucks, and also their explanation of way trucks were not fully utilized now on a 24-hour basis.

Among points the truckers raised, were:

Not all shippers are keeping their terminals open 24 hours a day.

Most receivers are open only during the daytime.

Some defense plants close their gates to trucks at night, Saturdays and Sundays.

State authorities are still picking off trucks for "trivial" violations and also for size and weight "violations", even though hauling to defense areas.

Most urgent need is to ease state barriers to free flow of trucks.

Rails "cheap" rates are still too attractive to defense plants for them to accept truck deliveries of petroleum products.

Labor unions object to a driver accompanying a truck when leased to an operator in another area, even though he may be a union member.

On the question of railroad "agreements" restricting use of trucks, Mr. Dow said he had been advised by the Assn. of American Railroads that these contracts were being "waived" for duration of the war.

Oil-Rail Agreements, Hampering Trucks, Are Waived by Railroads 'For Duration'

NPN News Bureau

WASIHNGTON—Trucks may now haul to or from bulk plants located on properties leased from railroads—and there is no danger of the bulk plant operator's lease being cancelled.

Moreover, the Assn. of American Railroads wants to know of any instances where some local railroad official may be insisting that oil companies live up to these restrictive clauses in their leases.

To truckers, this may sound like the millennium has arrived but it is only "for duration of the war" and only because of the need for tank cars on long hauls.

Recommended by Pelley

This co-operative step by the rails was first taken on Feb. 23 when John J. Pelley, president of the rails' association, sent out a recommendation to rail executives that these restrictive clauses be waived during wartime emergency.

Mr. Pelley's recommendation follows:

"You are familiar with the pressing need to get the maximum use out of tank cars and, in connection with studies which are made, it has been suggested to us that railroads waive all clauses in standard lease forms which prevent the trucking of gasoline and oil in short haul movements.

"Arrangements of this kind would release a large number of tank cars that are needed in this emergency for long haul business to get needed oil into critical areas.

"I suggest that you give serious consideration to this matter and agree that for the duration of the war you will waive all provisions in leases that control oil traffic to the rails to the end that tank cars can be used to the best advantage."

Report D. F. Sears to Head OPC Pipeline Section

NPN News Bureau

WASHINGTON—D. F. Sears, previously general superintendent of Shell Pipeline Corp. at Houston, is expected to be named Office of Petroleum Coordinator's new pipeline chief. Mr. Sears has been with Shell for past 15 years.

Charles L. Lockett, former OPC pipeline chief, has been transferred to OPC's transportation priorities section.

H. S. Austin, 30 years with New Jersey Standard, is now an OPC pipeline consultant. Construction of Iraq crude line was among jobs on which Mr. Austin worked. He retired in 1940.

Tank Cars to East Set Higher Record

NPN News Bureau

WASHINGTON—Rail movement of oil to the East Coast continues to climb, reaching 525,697 bbls. daily during week ended April 4, with the limit still not in sight.

What the maximum ultimately will be, both rail and oil representatives are reluctant to predict. A few weeks ago, estimates of 600,000 bbls. daily were regarded by some as overly-optimistic. Now, that goal seems definitely attainable, and sights have been raised to an 800,000-bbl. goal.

Railroads themselves are doing no predicting. But J. J. Pelley, president of Assn. of American Railroads, according to Petroleum Co-ordinator Ickes, has expressed doubt that the rail movement would reach 800,000 bbls. daily.

Breakdown Given

In announcing another new record high of 525,697 bbls. moved eastward daily by rail during week ended April 4, Office of Petroleum Co-ordinator broke it down by companies and products as follows:

American Mineral Spirits Co., 88 cars; Atlantic Refining, 1512; James B. Berry Sons, Inc., 8; Cities Service, 774; Conoco, 118; Gulf, 1257; Hartol, 84; Pan American, 1022; Petrol Corp., 368; Petroleum Heat & Power Co., 42; Pure, 189; Shell, 1189; Sinclair, 1422; Socony-Vacuum, 2064; Kentucky Standard, 91; New Jersey Standard, 3126; Sun, 653; Texaco, 1982; and Tide Water, 366.

Breakdown of tank car movement by products was:

Crude, 7234; gasoline, 4453; kerosine, 642; gas oil and distillate fuel oils, 1049; residual, 2520; lube oils, 107; asphalt, 85; naphtha, 166; l.p.g., 26; wax, 7; and "miscellaneous", 66.

S.A.E. Meeting Will Discuss Automotive War Projects

NPN News Bureau

CLEVELAND—Technical discussions on war engineering projects in which the automobile manufacturing companies are engaged will occupy the full program of the annual summer meeting of the Society of Automotive Engineers at White Sulphur Springs, W. Va., May 31 to June 5. Because of the nature of the meetings, none but American and Allied citizens will be permitted to register and attend sessions, said John A. C. Warner, general manager of the Society.

DRUMS-PAILS

for oil, grease and other petroleum products

• The standard 55 gal. oil drum and 5 gal. lug covered grease pail.

THE substantial construction and perfect sealing closures furnish a guarantee against loss or damage during shipment. The wide range of spout openings and head designs provide the most efficient container for every requirement. In addition to the regular oil drum shown above, the grease drum is made with lug covered head both full opening and combination lug cover, bolted on head, or E-Z seal lever locking ring cover.

Pails can be supplied with a wide range of pouring spout openings. Wilson & Bennett steel drums and pails have, for many years, been used by leading producers for packing petroleum products.

• The popular Type R swivel spout pour pail with rimmed on or lug type head.

WILSON & BENNETT MANUFACTURING CO., CHICAGO, ILL.

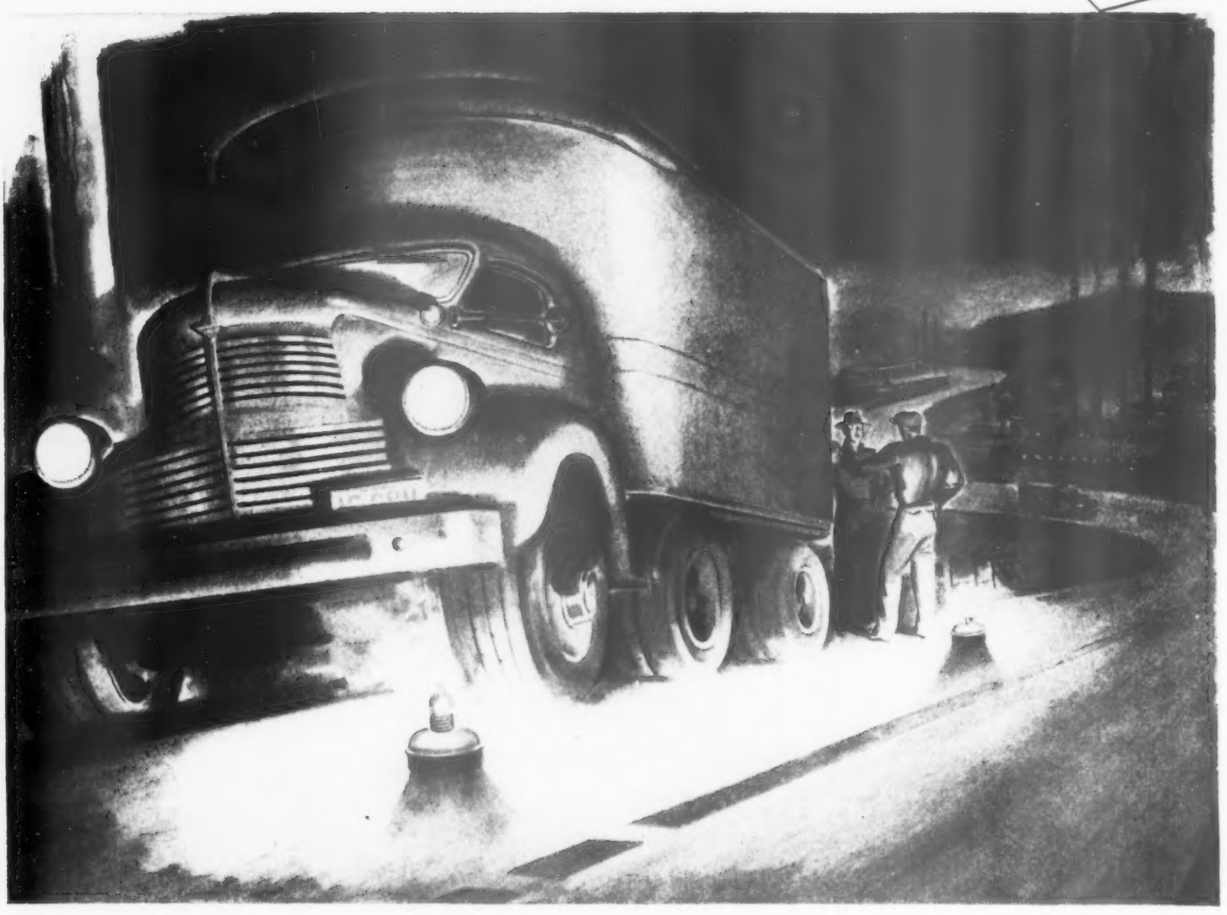
Subsidiary of Inland Steel Company

Plants at Chicago, Jersey City and New Orleans ● Sales offices in principal cities

Makers of Steel Drums and Pails

GOOD A.M.*

WOULD HAVE PREVENTED THIS



*Axle Maintenance Keeps 'Em Rolling

Stalled! Precious minutes lost when minutes count! . . . when the nation is depending on you to *keep 'em rolling!*

A. M.—Axle Maintenance—is the only practical way to stretch out truck life and avoid delays costly to you and to the Cause that depends on you for prompt, dependable transportation.

Timken is co-operating with operators interested in proving A. M. to increase the life of vital equipment. Write us for new maintenance bulletins and other material which will help you get more miles of service from your present equipment.

A postcard mailed today will help you "Keep 'Em Rolling" now and for many a year to come.

TIMKEN AXLES

THE TIMKEN-DETROIT AXLE CO., DETROIT, MICHIGAN
WISCONSIN AXLE DIVISION, OSHKOSH, WISCONSIN

Timken's Job: To Axe the Axis with Axles

Serve by Saving Rubber

Safety in Operation of Tank Trucks

Is Vital Today in Oil's War Program

More trucks carrying petroleum products are rolling over America's highways today than ever before.

New plans for meeting shortages in tanker-dependent areas, calling for the use of trucks on all hauls within a 100-mile radius of refineries and terminals and for longer hauls even of 1000 miles from California into the Pacific Northwest will bring about a still greater use of tank trucks and transports.

Never before has the urgency of safe operation been so great.

Timed with this changing trend is American Petroleum Institute's new manual: "Safe Transportation of Petroleum Products by Tank Truck", which NPN will reprint in installments, beginning with this issue. Copies of the manual are available at 25c each from American Petroleum Institute, 50 West 50th St., New York, N. Y.

Outstanding safety records are being established in the daily transportation of millions of gallons of gasoline and other petroleum products through our streets and over our highways by thousands of tank trucks. These fleets of high-class oil- and transport-company trucks are operated by responsible men whose courtesy and competence have earned for them the title "gentlemen of the highway." They know the flammable properties of the volatile liquids being transported. They realize the possibilities of fire, and are ever alert to protect life and property against injury resulting from leakage or spillage of liquid cargo.

The experiences of these "gentlemen of the highway" form the basis of the information contained in this publication.

End-of-Run Report

• When he goes off duty or is relieved by another, the truck driver should report complete information concerning the condition of the truck. Needed repairs should be made at the earliest opportunity. When a truck is used in shift service, it is usually the senior driver who makes contact with the maintenance or repair department; but the other driver is not relieved of the responsibility of reporting any defects which he may have noticed while he operated the vehicle.

• The driver should consider the condition of his truck and drive accordingly. Some minor defects may be tolerated for a short time if the driver bears them in mind.

Inspection Is Vital

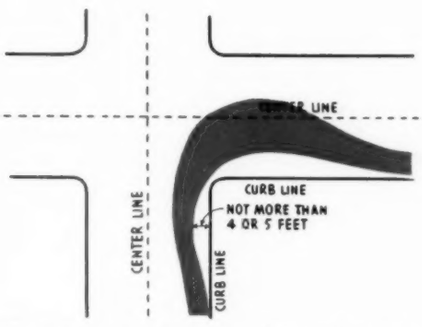
• Before he starts the day's work, the driver should be certain that:

a. Fuel tank has been replenished.
b. Motor-oil level is adequate.
c. Radiator is full of water.
d. Horn, headlights, tail lights, and any other lights are in operating condition.
e. Fire extinguisher is filled; that it is in place and is in operating condition.
f. License plates are in place and are secure.
g. Rear-view mirror is adjusted.
h. Windshield is clean and the windshield wiper works.
i. Tires are inflated to manufacturer's recommended pressure.
j. Steering mechanism is working.
k. Coupling devices are in working order on trailers and semi-trailers.
l. Tanks and faucets do not leak.
m. Reflectors, spare light bulbs, fuses, flares, flags, tire chains, and other items are available; and that they are available in such form and quantity that the driver will be able to comply with all existing regulations concerning such parts.

• Before a truck leaves the plant, the motor should be idled for a short period to make certain it works properly. Upon starting out, or preferably before the truck leaves the plant yard, both the parking brake and the service brake should be applied to the truck while it is moving, so as to be sure these brakes hold. Needed repairs or adjustments should be made before the truck starts out, instead of on the street or highway.

Care In Driving

• Two vehicles correctly driven cannot collide. A skillful driver makes allowance for possible lack of skill or knowledge on the part of other drivers. The skillful driver frequently surrenders the right-of-way, which legally may be his, and makes other concessions to avoid collision. These courtesies, or concessions, may cause a brief delay in making deliveries, but they result in good will for the driver and the products he handles; most important, they prevent accidents.



Rounding corners with a big trailer unit isn't child's play. Here's the best method of making a right hand turn

Returning, the driver should report amount of products left in the compartments. He should also report on truck's condition, noting any mechanical defects

• Drivers should not carry unauthorized passengers. These riders merely add to the driver's responsibilities and, because of their lack of knowledge, may be the cause of an accident.

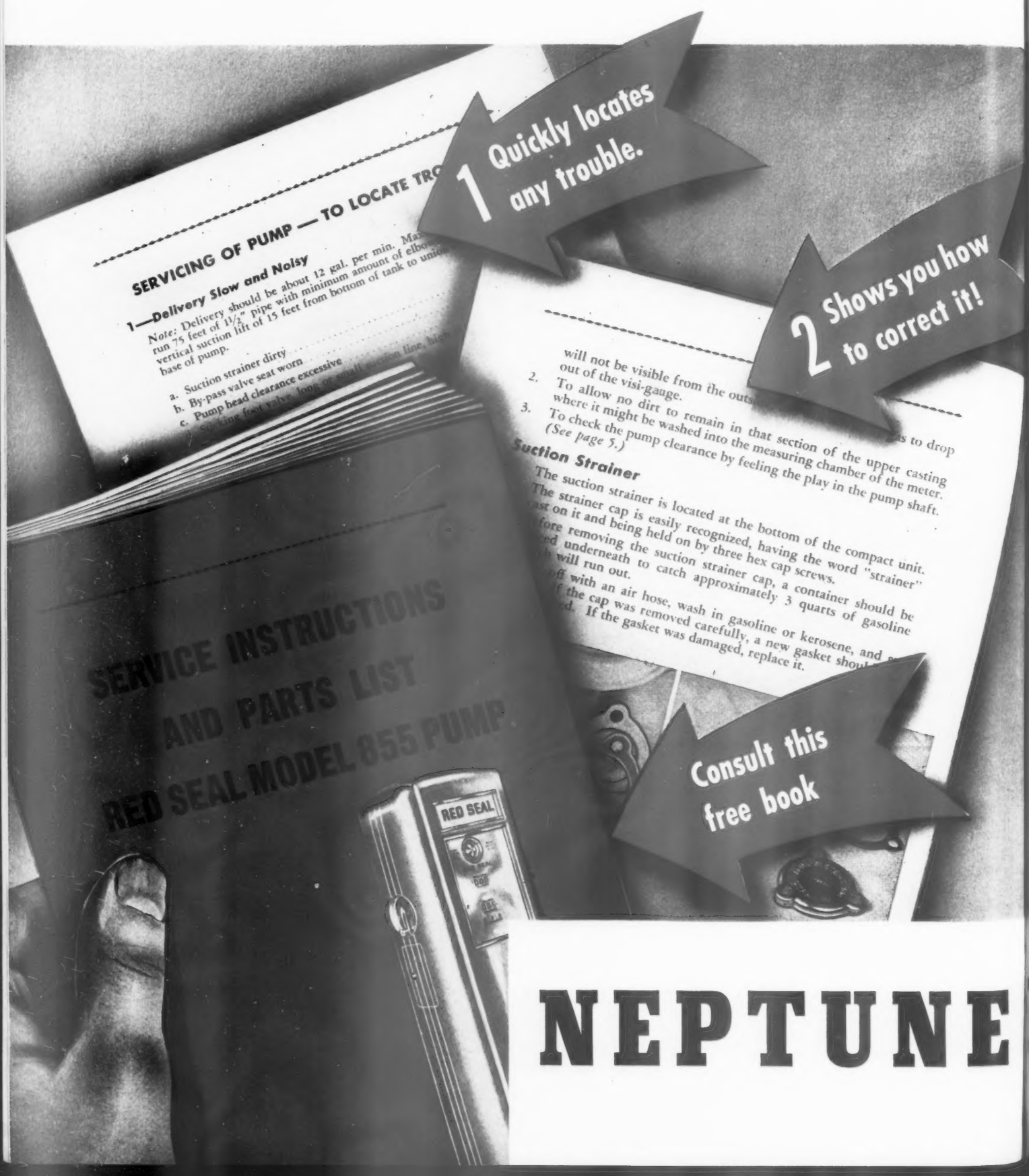
• Drivers should familiarize themselves with and comply with state and local traffic regulations.

• Large delivery or transport trucks require more room for turning than smaller vehicles. Drivers should signal their intention to other drivers, and should time their turns so as not to inconvenience other drivers unnecessarily. Drivers should follow the instructions that right turns only should be made from the right-hand lane and left turns from the lane nearest the center line of the street, and should deviate from this instruction only if required to make a turn from or into a narrow street.

Watch Those Curves!

• Wrecks have resulted when drivers attempted to drive around curves rapidly. Excessive speed on a curve may result in veering the truck off the road and turning it over. If the driver cuts the curve, he may have a side-swipe collision with an approaching vehicle. Loose gravel on the outside of curves on gravel roads makes fast driving around these curves both difficult and dangerous. If the right-hand wheels go off the pavement onto the shoulder of the road, no attempt should be made

How to be *your own* p


1 Quickly locates any trouble.
2 Shows you how to correct it!
Consult this free book
SERVICE INSTRUCTIONS AND PARTS LIST RED SEAL MODEL 855 PUMP
SERVICING OF PUMP — TO LOCATE TRO
1—Delivery Slow and Noisy
Suction Strainer
RED SEAL

NEPTUNE

pump doctor

Usually any difficulty with the operation of a Red Seal Gasoline Dispensing Pump is the result of some minor trouble, neglect or oversight. The Red Seal Service Instructions Book tells you how to spot the trouble quickly and to correct it before it proves costly.

● THE RED SEAL Service Department is on it's job . . . will continue to be so . . . and will cooperate as usual with Red Seal pump users.

But very likely you will be unable to get new pumps for a long time to come. It is important, therefore, that you yourself take best possible care of the pumps you now have. Even smallest troubles should be remedied promptly—before they can become more serious. Typical operating faults—caused say by leaky foot valves, water in the storage tanks or dirty strainers—you yourself can readily correct.

How to Use This Red Seal First-Aid

Diagnosis of almost any operating trouble—whether trivial or calling for repairs or parts replacement—can be made by quick reference to this simplified new Red Seal Service Instructions Book. See how it works:

Suppose your pumping delivery is slow and noisy. You glance at the "trouble-shooting" index near the back of the Service Instructions Book. Under the classified heading, "Delivery Slow and Noisy," you find listed five possible causes of the trouble. Alongside the first likely cause mentioned, "Suction strainer dirty," is a reference to Page 4. You turn to this Page 4 of the "Inspection and Repair" section, where you are shown exactly how to disassemble the suction strainer . . . in a minute . . . and how to clean it.

So easy that even a mechanically-unskilled station attendant could handle such trouble-shooting . . . investigating one possible cause after another of those given, until he had made the diagnosis sure and complete!

Photographs and drawings in the book clearly illustrate and identify each part of your Red Seal Pump. Instructions are plain and specific.

Parts Replacement Under Red Seal Exchange Plan

The specially "engineered" construction of the Red Seal Pump has produced a dispenser consisting essentially of only three vital units: (1) Motor; (2) Red Seal Compact—including meter and strainer, pump and strainer, pump pressure control unit, air separator, and line check and pressure relief valve; (3) Register.

Should any of these units need factory attention, the entire unit in question can be removed speedily from the Pump and a new or reconditioned unit (supplied by Neptune) installed in its place. The removed unit is shipped to Neptune for liberal credit, so that the net cost of the replacement is extremely low.

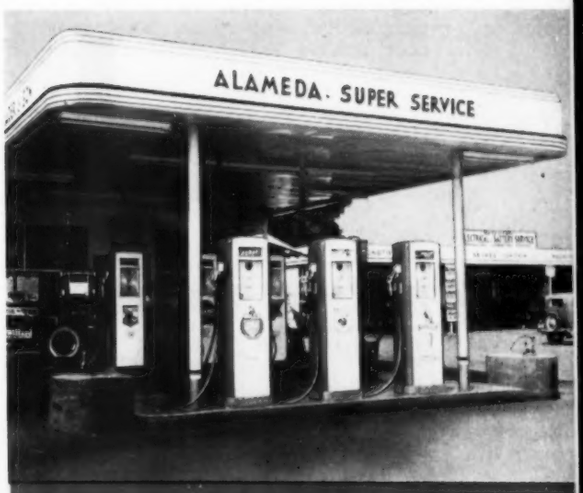
This time- and money-saving Red Seal Exchange Plan will continue in full force so long as Government regulations permit.

But you will further protect yourself by making every effort to avoid the need of repairs or parts replacement.

Many years of trouble-free service are built into the Red Seal Pump. To obtain this type of service from your Red Seal, it merely is necessary to follow the simple instructions laid down in the Service Instructions Book and in the Red Seal Maintenance Time-Table—which covers instructions for periodic cleaning, lubricating and inspection. Every Red Seal part is easily accessible.

Station Responsibility

Your community depends upon you to keep station and pumps operating.



Alameda Super Service, Burbank, California —When these six Red Seal computing pumps were installed, gallonage promptly increased and electric bills went down.

Every responsible station operator of course will do his level best to serve such community needs. A first and important step is to see that gasoline pumps are maintained in best working condition. A little self-reliance on the part of station operators and attendants, in this matter of pump care, will bring far-reaching results.

Write for your Red Seal Service Instructions Book . . . addressing your nearest Neptune office.

●

NEPTUNE METER COMPANY
50 West 50th St., New York, N. Y.
Branches at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City (Mo.), Los Angeles, Louisville, Portland (Ore.), San Francisco, Philadelphia, Long Branch, Ont. (near Toronto).

RED SEAL PUMPS

NEPTUNE RED SEAL METER CO.

Meters for: Barge and Tank Car Unloadings • Storage Transfers • Loading Racks • Delivery Tank Trucks.

1843

to get back on the pavement until the truck has been slowed down. Turning back onto the pavement too quickly may cause the truck to overturn or may put it in the path of vehicles approaching from the opposite direction. The skillful driver considers the road ahead, and should not overdrive the road.

• Loaded trucks should be driven down-grade in the same gear that would be required to pull the truck up the grade. Coasting with the clutch disengaged or with the shift out of gear is illegal in some states and is poor driving in any state. In any event, neither procedure is desirable, because it lessens the driver's control of the truck.

Speed Costs Lives

• Excessive speed not only is unsafe; it is uneconomical. Maximum efficiency in motor operation is attained at less than top speed. The driver with a satisfactory safety record usually operates his truck at a moderate cost per mile.

• Bridges and concrete slabs of private driveways not always are sufficiently strong to support a loaded truck. The driver should call the attention of the property owner to this fact, and should proceed over a private driveway only if he is instructed to do so by the property owner.

• Whenever possible, backing should be avoided. If unavoidable, the driver should walk around the truck first to see that no children or other obstructions are in its way.

• If illumination is required during repair work on the road, it is better to use hand flashlights or hand electric lanterns than to use extension cords and lamps.

Continental Awards Service Pins

PONCA CITY, Okla.—New service pins representing a total of more than 1600 years of service with Continental Oil Co. were awarded 57 employees by Continental executives at ceremonies held in regional and division offices recently.

Longest records among employees honored were set by L. J. Morgan, order and distribution division superintendent at Ponca City, and V. C. Mitchell, construction man in marketing department at Salt Lake City, Utah, both of whom have been with Continental for more than 40 years.

Continental issues pins for each five-year period beginning with 25 years, and the group included only those who recently passed one of these periods.

Gulf Gives Service Awards

PITTSBURGH — Emphasizing the need for efficient, trained labor to speed up war production, J. Frank Drake, president of Gulf, announces that 2496 employes will be given Service Awards for 10 to 40 years of service with the organization. Two of the employes have completed 40 years of service and 16 have completed 35 years. The number in the other yearly classification is: 30 years, 44; 25 years, 174; 20 years, 511; 15 years, 1039; and 10 years, 709.

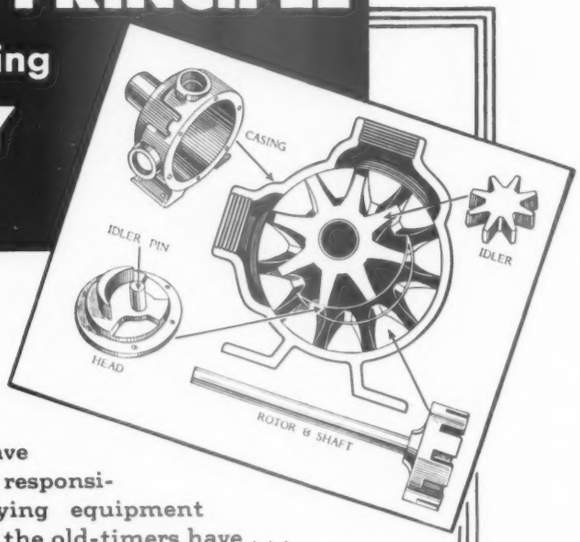
Shell Wins Packaging Award

NEW YORK—A top award in the oils, paints and varnishes classification of the 11th Annual All-America Package Competition, sponsored by *Modern Packaging Magazine*, was awarded Shell Oil Co. for a simple and distinctive re-designing job of its one- and five-quart motor oil cans. The achieve uniformity of Shell cans sold throughout the U. S. and to improve purpose of the new design was to merchandising and display value.

Books Collected for Service Men

Tide Water Associated Oil Company, through its service stations on the Pacific Coast, gathered a tremendous number of books for distribution to soldiers, sailors and marines during the Victory Book Campaign. Personnel of the company's general offices in San Francisco went "all out" in a campaign to make the contributions from more than 500 employes 100%.

IT PAYS . . .
To Remember The Original
VIKING PRINCIPLE
When Specifying
ROTARY PUMPS



New men who have the important responsibility of specifying equipment find . . . just like the old-timers have . . . that it pays to place quality and dependability *first* when buying rotary pumps. Vikings, with only 4 major parts and just 2 moving parts . . . the famous "Gear Within A Gear" principle . . . lead in their field. Your judgment will be proved right when you specify Viking Rotary Pumps. They deliver on every job. Bulletin 802-35 shows you why. It's free. Write for it today.

VIKING PUMPS — FIRST IN AMERICA

VIKING Pump COMPANY
CEDAR FALLS, IOWA

Care for your Car . . . for your Country

The way in which the petroleum industry is cooperating in the job of educating motorists to conserve their cars is a tribute to the high patriotism of the industry.

The way in which American motorists have responded to this program is equally convincing testimony to the kind of spirit we shall need, increasingly, to win this war.

The Ohio Oil Company is proud to be a part of a program that thus serves our country.

The OHIO OIL COMPANY, Inc.

FINDLAY, OHIO

Producers of Petroleum Since 1887

MARATHON

★ OIL IS AMMUNITION ★ USE IT WISELY ★

Oil Companies Report on 1941 Operations . . .

Pan American Petroleum & Transport Co.

National defense work became a serious problem toward the end of 1941, with the result that the engineering, research, and design departments devoted nearly 100% of their time to the development of alternative proposals designed to utilize the facilities of the Pan American Petroleum & Transport Co.'s Texas City refinery to maximum advantage in aiding our war effort, stockholders of that company are informed in the 1941 annual report.

Addition of a new furnace to a distillation unit greatly increased the capacity of the unit for rerunning domestic fuel oil, and the remainder of the refinery equipment operated at capacity throughout the year, the report discloses.

The consolidated net profit of the company and its subsidiaries for the year 1941, after all charges (including provision for federal income taxes of $3,295,612 and excess profits taxes of $1,868,349) was $6,827,491. This compares with a net profit in the previous year of $5,626,083, despite total of Federal taxes on income almost fourfold the 1940 taxes, the report states.

* * *

Barber Asphalt Corp.

Barber Asphalt Corporation's annual statement indicates that the company's petroleum and asphalt business was adversely affected by the shortage and high cost of transportation by tankers and cargo vessels in 1941.

Despite this, a total business of $13,289,736.20, compared with $11,120,873.52 in 1940, yielded a net profit after all charges including depreciation, amortization and taxes of $257,678.82, compared with a loss of $188,796.47 for the previous year. A substantial increase in cash in bank and on hand is shown.

Barnsdall Oil Co.

Twenty-third annual report of the Barnsdall Oil Co. discloses that a total of 67.80 net wells, of which 48.80 were productive and 19 non-productive, were completed in 1941. In addition to these wells, six intake water wells were drilled for the purpose of repressuring old properties.

The average price received for crude oil in 1941 was $1.12 per bbl. Barnsdall's total net production in 1941 was 7,255,175 bbls., a daily average of 19,877 bbls.

The report shows a gross operating income of $11,058,597 in 1941, compared with $9,370,017 in 1940. A profit on sale of producing properties of $2,515,996 is shown. Total net profit per share in 1941 was $2.25, compared with 97c in 1940.

* * *

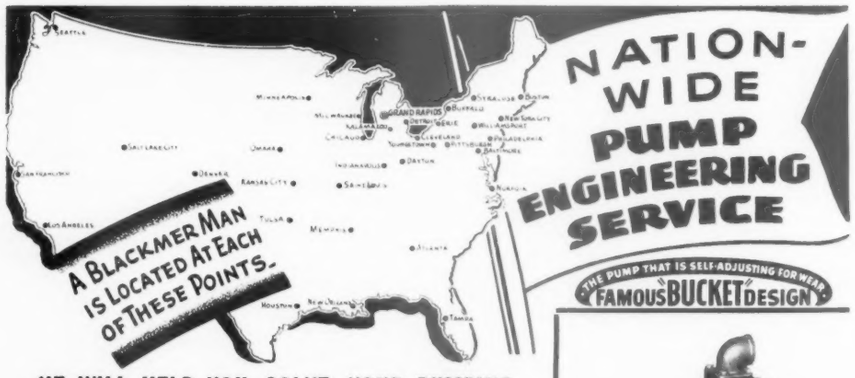
Shell Union Oil Corp.

"Facilities for the manufacture of high-octane aviation gasoline were considerably extended in 1941. Several large projects for production of this and other war materials are under construction by your company, or are awaiting government approval," Shell Union Oil Corp. states in its 1941 annual report to stockholders.

The company states that in addition to a plant completed last year which is already producing butadiene at the rate of several thousand tons a year, it is also discussing with the Government erection of a plant which will product greatly increased quantities of this necessary ingredient of synthetic rubber. Production of toluene, the report states, will be supplemented by the addition of several plants now under way.

The future for the oil business was described by Shell Union as a long period of hard work and sacrifice on the part of all. Its president, R. G. A. van der Woude, expresses confidence that the members of Shell's organization will fully meet the demands which will be made upon them.

Shell Union's 1941 net income was $17,334,214.25 as compared with $15,654,678.26 in 1940. After taking into account the year's net income of $17,334,214.25, the dividends of $13,070,625 ($1.00 a share) on Common Stock, the redemption premium and other charges amounting to $2,412,748 incident to the retirement of the 5½% preferred stock, the balance of consolidated earned surplus as of December 31, 1941, was $22,611,885, representing an



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THE PUMP THAT IS SELF-ADJUSTING FOR WEAR
FAMOUS BUCKET DESIGN

HE WILL HELP YOU SOLVE YOUR PUMPING PROBLEMS . . . PROMPTLY AND ECONOMICALLY

(For address and telephone number of your Blackmer Man, see "Pumps, Blackmer" in classified section of telephone directory in cities shown on map.)

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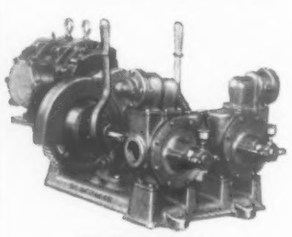

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Single and multiple units. Cap. to 700 GPM. Pressures to 300 psi.

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54 Models. 7-25 GPM.

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says
J. A. GITZEN
President
DELTA OIL PRODUCTS CO.
Milwaukee, Wis.

MR. GITZEN'S customers are fleet owners and manufacturers. Selling Pennsylvania Oils to them, Mr. Gitzen's experience is exactly like that of hundreds of jobbers and their dealers who sell the motoring public. He knows that Pennsylvania customers are *repeat* customers.

A customer may like your gas—but that's no reason why he'll like your oil. Frequently he'll go to another station for Pennsylvania. When he does that he's only a "half-customer." But give him emblem Pennsylvania Motor Oil and he'll stay sold — on your oil — your gas — and *your station!* Talk to an Association man or write headquarters.

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Guaranteed
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Made from
the highest grade crude oil in the world

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With Oil in the very core of our WAR plans . . . and OPC, OPA, and WPB issuing daily decrees, orders, recommendations, and limitations to the OIL industry . . .

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increase of $1,850,841 over the balance at the end of the preceding year.

The company states that the dividends payable by Shell Pipe Line Corp. after Jan. 1, 1942, will be subject to the restrictions of the consent decree which was entered in December, 1941, in settlement of the Elkins Act controversy and which will affect most of the common carrier pipe lines of the country.

* * *

The Ohio Oil Co.

Ohio Oil's gross production during 1941 totaled 28,069,308 bbls. Net production amounted to 24,059,327 bbls., equivalent to 65,916 bbls. per day, as compared with a daily net of 61,818 bbls. in 1940. Addition to reserves were made by purchase, by exploratory operations and through the development of present producing lease holds, the company's 1941 annual report to stockholders reveals.

In one plant, the report states, there was an installation of a polymerization unit, construction of which was commenced late in 1940. This, together with other changes in processing equipment, resulted in the anticipated improvement in gasoline octane value and increased crude capacity.

Realization from the sale of all refined products reflected a substantial improvement as compared with the previous year, stockholders are told.

The consolidated net sales, after eliminating intercompany transactions, during the year were $67,983,852, an increase of $8,583,335.

Report of the president states, "Although the petroleum industry was faced with rapidly changing conditions as well as many unusual situations during the past year, substantial improvement over the previous year was recorded in all phases of the company's operations."

A.P.I. Names Railroad Committee Members

NPN News Bureau

NEW YORK—The 1942 Committee on Railroad Transportation of the American Petroleum Institute's division of marketing has been appointed by E. V. Weber, chairman of the general committee, with Fayette B. Dow, Washington, D. C., and D. V. Stroop, New York, both of the Institute, as chairman and secretary, respectively.

Members of the committee are:

Richard Bard, Cleveland, National Refining Co.; E. A. Barrer, Butler, Pa., Valvoline Oil Co.; R. J. Beatty, New York, The Buckeye Pipe Line Co.; L. R. Benner, New York, Socony-Vacuum; A. J. Bessolo, Pittsburgh, Gulf; A. B. Budd, Toledo, Ohio, Hickox Oil Co.; D. E. Carrier, Oil City, Pa., Pennzoil; F. C. Clark, Houston, Tex., Crown Central Petroleum Co.; David Copeland, Chicago, General American Transportation Corp.; L. R. Cowles, Chicago, Indiana Standard; and W. J. Curley, Pittsburgh, Penna-Conley Tank Car Co.

C. E. Donaldson, San Francisco, Shell; C. F. Dowd, New York, Tide Water; G. W. Ebert, Oil City, Pa., James Berry Sons Co.; H. S. Elkins, Washington, National Petroleum Assn.; Charles Ervin, New York, Texaco; E. W. Evans, Findlay, Ohio, Ohio Oil; L. E. Fleming, San Francisco, California Standard; R. W. Fyfe, Chicago, Indiana Standard; H. R. Gillespie, Chicago, Deep Rock; and B. C. Graves, Chicago, Union Tank Car Co.

Henry Hauseman, Chicago, Pure Oil; H. C. Hoffa, Philadelphia, Atlantic; A. C. Holmes, Bartlesville, Okla., Cities Service; P. L. Howard, Philadelphia, Sun; A. C. Hultgren, New York, Shell; Robert Hutcherson, San Francisco, Tide Water; M. E. James, Cushing, Okla., Cushing Refining & Gasoline Co.; E. W. Jarvis, Louisville, Ky., Kentucky Standard; W. E. Kleinsteiber, Toronto, Canada, Imperial Oil Ltd.; P. H. Kuhns, Ponca City, Okla., Continental; and J. R. Lewallen, Tulsa, Tide Water.

Other Members Named

W. F. Lowe, Tulsa, Natural Gasoline Assn. of America; W. H. Maddox, Dallas, Magnolia; C. H. McNair, Houston, Humble; H. L. McReynolds, Kansas City, Mo., Socony-Vacuum; Paul H. Moore, Los Angeles, Gilmore Oil Co.; C. R. Musgrave, Bartlesville, Okla., Phillips; and W. O. Narry, Los Angeles, Richfield.

J. C. O'Brien, Detroit, Socony-Vacuum; J. M. O'Day, New York, Sinclair; A. G. Phelps, New York, New Jersey Standard; J. D. Rearden, Los Angeles, Union Oil Co. of Calif.; E. C. Robinson, Cleveland, Ohio Standard; H. W. Roe, Tulsa, Mid-Continent Petroleum Corp.; and Robert Rogers, New York, Shippers Care Line Corp.

F. A. Shellhorn, Tulsa, The Hanlon Companies; S. B. Short, New Orleans, Louisiana Standard; A. E. Smith, Chicago, Union Tank Car Co.; E. A. Starr, Fort Worth, Texas & Pacific Coal Oil Co.; R. E. Stewart, Tulsa, Barnsdall Oil Co.; A. F. Winn, Kansas City, Mo., Skelly; J. S. Wood, New York, Pan American; and C. E. Ziegler, Los Angeles, General Petroleum Corp.

Michigan Jobbers Hit Anti-Trust Suspension

(*Continued from page* 15)

the oil business is in the hands of good men, and those who are doing a good job of management at home need have no fear for future, Mr. Keister stated.

Personnel Training Vital

But, he added, personnel training in the oil business should be looked upon with the same relative importance as that of defense plants and the armed forces.

Neal Staebler, Staebler-Kempf Oil Co., spoke on the subject of temperature adjustments.

J. D. Hadley, M.P.A.'s executive secretary, presided at the business sessions. Mr. Hadley also addressed the convention on some of the legal phases of the kerosine inspection law.

Other speakers included H. E. Bradshae, state director of gasoline tax and Wendell Lund, executive director of Michigan Unemployment Compensation Commission.

Virginia Jobbers Rally

Special to NPN

RICHMOND, Va. — Virginia Petroleum Jobbers Assn. holds its spring meeting here May 21 at the John Marshall Hotel. Paul E. Hadlick, Washington, D. C., secretary of the National Oil Marketers Assn., is scheduled as principal speaker. E. W. White, Petersburg, Va., Delta Oil Co., chairman of the association's legislative committee, will discuss legislative matters, bringing members up to date on current developments.

Association President Milton B. Whiting, Clifton Forge, Va., Whiting Oil Co., states that the major portion of spring meeting will be devoted to roundtable discussions of current jobber problems.

Eastern Oil Men Rally At A.P.I. Meeting

Special to NPN

PITTSBURGH — Four hundred eastern oil men attending the meeting of the eastern district, American Petroleum Institute Division of Production, here April 9-10, were urged to make suggestions to Washington on the war program for this oil producing territory.

Donald R. Knowlton, director of production of the office of Petroleum Coordinator, and Frank M. Brewster, director of natural gas for District 1, spoke on the lack of understanding by public officials generally on the oil industry's war problems, and said constructive suggestions coming from the oil men themselves served to back up the industry's representatives in Washington.

Walter S. Hallanan, Pittsburgh, president of Plymouth Oil Co. and chairman of District 1 production committee, outlined the war requirements from this district. J. French Robinson, Cleve-

Pep up Profits with CISCO PEP!

Here's another one of those extra-profit items motorists insist on—and can get only at a Cities Service station!

GAS AND OIL are swell to sell . . . but it's the extra-profit items like Cisco Pep that pile up the big *profits*.

Cisco Pep restores pep and pick-up to motors in bad condition due to sticky valves and rings. It loosens carbon and gum from sluggish carburetors.

Cisco Pep is a *must* for motorists who want to give their cars an extra year of youth — and, these days, that means *all* motorists.

Dealers who handle Cities Service know there are many of these extra-profit items in the Cities Service line . . . *proved* money-makers like the Power Prover and Sealed Lubrication.

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OIL DRUMS and FAUCETS *are Back*

VERY SOON, oil must again be measured and served direct from the drums. To prevent loss and waste through dripping and overfilled measures, it is important that the right faucets are used—and this means STEARNS Guaranteed Faucets.

STEARNS Faucets are especially designed for petroleum products and have been used in the petroleum industry for many years. They are well made, absolutely dependable and assure maximum economy and efficiency—at a very low cost. No. 60 faucet described below, deserves special consideration. It operates at a finger touch—and closes automatically as pressure is released.

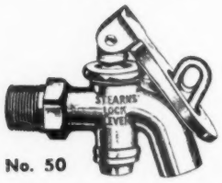
Use STEARNS FAUCETS

No. 60

No. 60 SELF-CLOSING FAUCET

¾" flow. ¾" U.S. Standard Pipe Thread.

Close-grained, grey iron faucet, heavily plated inside and out, to prevent corrosion. Guaranteed to hold all petroleum liquids. The valve facing is a special synthetic rubber disc that never needs replacement. The sealing plug is easily removed to permit cleaning valve and internal parts.


No. 50

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A heavily plated, close-grained, grey iron faucet, guaranteed to hold all petroleum liquids. Shuts off the flow instantly, by turning lever. The plug is individually ground to each barrel and a tight joint is maintained by a spring washer.

Write for circular showing all styles and sizes of Stearns Gates and Faucets and insist that your hardware jobber or distributor supply you with guaranteed Stearns Faucets.

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Estab. SYRACUSE, N. Y. 1864

land, president of East Ohio Gas Co., spoke on how natural gas was serving the nation's war effort. Congressman Wesley E. Disney, Okla., spoke at the banquet on the need for co-operation by the oil industry in the war program. Technical papers and discussions occupied the two-day sessions.

M. G. Gulley, Pittsburgh, Gulf Oil Corp., was elected chairman for the A. P. I. eastern district of production, succeeding O. W. Van Petten, Charleston, W. Va., Columbian Carbon Co.

'All Truck Production Stops May 31'—WPB

NPN News Bureau

WASHINGTON — Production of all trucks for civilian use, including off-the-highway vehicles, must stop by May 31 because no tires are available to equip trucks that would be made otherwise.

Such was the substance of an April 11 order by War Production Board (Supplementary General Limitation Order L-1-e) which stipulated that heavy truck production must stop by May 31. These trucks are included in the March quota.

Medium trucks, already ordered stopped, may be made until April 30, provided the trucks are part of the February quotas.

Medium trucks are classed as those between 9000 and 16,000 lbs., and heavy trucks as over 16,000 lbs.

WPB estimated that, when production stops, 97,070 medium and heavy trucks will have been built since Jan. 1, compared with 88,085 during first 3 months of last year.

Tire Blow-out Shoes Banned; Camelback Allocated

NPN News Bureau

WASHINGTON — Manufacture of "blow-out shoes", regarded by War Production Board as "an uneconomical form of tire repair", has been prohibited and the output of tire reliners has been lessened, with the amount of scrap rubber used for reliners to be definitely set by the Director of Industry Operations.

These provisions were contained in Amendment No. 8 to Supplementary Order M-15-b made public April 11, on the heels of announcements from Office of Price Administration that tire renewal establishments would be allowed an initial stock of 500 lbs. of camelback for each passenger tire mold to recap List B tires, and a stock of 1000 lbs. for multiple type molds capable of handling more than one tire at a time.

OPA Rules on Mud Tires

NPN News Bureau

WASHINGTON — The oil company with mud or snow tires on its trucks and cars will have to use those tires until they wear out because the Office of Price Administration will not permit switching to regular tires for the summer.

Text of Order Given Cutting 'Gas' Quotas

(See story on p. 3)

TITLE 32—NATIONAL DEFENSE

CHAPTER IX—WAR PRODUCTION BOARD

Subchapter B—DIVISION OF INDUSTRY OPERATIONS

PART 1141—MOTOR FUEL

Amendment No. 1 to Limitation Order L-70

(a) Section 1141.1 (Limitation Order L-70), paragraph (k) is hereby amended to read as follows:

(k) Service Station Hours of Distribution. No Service Station within the Curtailment Area shall deliver to any Persons any Motor Fuel during more than 12 hours of any calendar day or during more than 72 hours of any calendar week: *Provided*, that this paragraph shall not apply in the case of deliveries of Motor Fuel made to any Person exclusively for any of the uses specified in paragraph (f). Each Service Station shall post prominently in a conspicuous place a notice of the hours during which Motor Fuel will be delivered at such Service Station to Persons other than those entitled to preferential deliveries specified in paragraph (f). The hours selected and posted shall remain in effect at least seven consecutive days and shall not be changed during such period.

(b) Section 1141.1 (Limitation Order L-70), paragraph (l) is hereby amended to read as follows:

(l) Reports.

On or before the 20th day following the end of each Quota Month, all Suppliers in the Curtailment Area shall file a statement on Form PD-369 of the amount of Motor Fuel delivered in each State within the Curtailment Area and in the District of Columbia during such month stating separately, direct deliveries.

a. To Federal, state and local governments.
b. To Suppliers for direct delivery to Federal, state and local governments, and
c. To Service Stations and Bulk Consumers under their Monthly Quotas.

(c) Section 1141.1 (Limitation Order L-70), Exhibit "A" is hereby amended to read as follows:

Exhibit "A"

Order L-70 shall apply in the following areas:

1. The States of Connecticut, Delaware, Florida east of the Apalachicola River, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, West Virginia, and the District of Columbia. The corporate limits of the City of Bristol, Tennessee.
2. The States of Oregon and Washington.

(d) Section 1141.1 (Limitation Order L-70), Exhibit "B" is hereby amended to read as follows:

Exhibit "B"

Effective April 16, 1942, and thereafter unless and until modified by the Director of Industry Operations the Allowable Percentage shall be 66 2/3%. The Monthly Quotas for April, 1942 shall be reduced proportionately.

(e) This amendment shall take effect immediately.

Issued this 8th day of April, 1942.

J. S. Knowlson
Director of Industry Operations

ODT Names Board to Handle Truck Rationing Appeals

NPN News Bureau

WASHINGTON — A special appeals board has been set up here to consider appeals under the truck rationing program until local appeals boards can be established in the field, Office of Defense Transportation announced on April 8.

Board is composed of M. V. Fredehagen, liaison officer of Office of Civilian Defense; W. Foster Banks, president of the Motor Haulage Co., Brooklyn; and J. D. Pymer, secretary-treasurer of the City Baking Co., Baltimore, Md.

. . . GET THIS FIRE-FIGHTING GIANT FOR YOUR BIG, TOUGH FIRE HAZARDS

MANY fire hazards are simply *too big* for portable extinguishers. In your own operations you'll probably find several such danger spots . . . the spaces where you store flammables . . . pump rooms . . . de-waxing rooms . . . and similar concentrated hazards. These call for *built-in* protection.

A Built-In LUX carbon dioxide extinguishing system is engineered to definite fire protection principles. Size and intensity of fire hazard determines whether you need 10 pounds or 10 tons of carbon dioxide in LUX cylinders . . . whether operation must be *automatic*, or *manually* controlled . . . whether one set of LUX cylinders may guard two separate hazard areas. That is modern *"engineered fire protection!"*

That is why LUX Built-In Systems handle big, tough fires with such ease. A flash of flame, a roar of fire . . . then a blast of carbon dioxide gas overpowers the blaze. LUX gas is one of the fastest known extinguishing agents despite the fact that it does not harm materials or equipment. Check the danger spots in your plant. Consider Built-In LUX Systems . . . for big, tough fires.

LUX SNUFFS OUT FIRE

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Milk producers bring their day's gallonage to a central assembly point and ship whole cars at one time. This freight economy means a better return on their product.

Perhaps you, too, can cut costs this same way: by accumulating your bulk liquids in a strategically located General American Terminal and reshipping in larger cargoes at more favorable rates.

Others in your field are doing it. And General American Service gives them 7 *extra* benefits too—without any investment on their part. Write or phone for evidence!

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Freight cars—particularly tank cars—are vital to Victory. They must be loaded, unloaded, kept moving with all possible speed. Delays may cost lives!

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1. RELIABLE CUSTODIANSHIP. Our warehouse receipts are highest type of collateral everywhere.
2. MODERN PROTECTION. Latest safety appliances; lowest insurance rates; minimum evaporation losses.
3. INDEPENDENT OWNERSHIP. Strictest privacy. We do not buy, sell or refine any oils.
4. NO WHARFAGE. There is no wharfage at our own private docks.
5. SPEED WITH SAFETY. Day and night crews, complete facilities, eliminate all shipping delays.
6. LARGE TANK CAR FLEET. Now working night and day, delivering essentials of war.
7. NO CONTAMINATION. Separate pumps, lines, storage zones for dissimilar commodities.

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GENERAL AMERICAN TANK STORAGE TERMINALS

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CARTERET, NEW JERSEY (Port of New York)
CORPUS CHRISTI, TEXAS GALENA PARK, TEXAS (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORP.

COMING MEETINGS

APRIL

American Chemical Society, 103rd Meeting, Memphis, Tenn., Mon.-Fri., April 20-24.

American Assn. of Petroleum Geologists, 27th Annual Meeting, Cosmopolitan Hotel, Denver, Colo., Tues.-Fri., April 21-24.

Petroleum Industry Electrical Assn., Washington-Youree Hotel, Shreveport, La., Wed.-Fri., April 22-23.

MAY

American Institute of Chemical Engineers, Semi-Annual Meeting, Boston, Mass., Mon.-Wed., May 11-13.

Natural Gasoline Assn. of America, 21st Annual Convention, Mayo Hotel, Tulsa, Okla., Wed.-Fri., May 13-15.

Virginia Petroleum Jobbers Assn., Spring Meeting, John Marshall Hotel, Richmond, Va., Thurs., May 21.

National Defense Exposition, Houston, Tex., Mon.-Sun., May 18-24.

National Assn. of Purchasing Agents, (Oil Company Buyers' Group), Waldorf-Astoria Hotel, New York, N. Y., Mon.-Thurs., May 25-28.

Society of Automotive Engineers, Annual Summer Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va., Sun.-Fri., May 31-June 5.

JUNE

Illinois-Indiana Petroleum Assn. and American Petroleum Institute, Illinois Basin Chapter, annual meetings combined, Robinson, Ill., Sat., June 6.

National Assn. of Tax Administrators, 10th Annual Conference, Hotel Fort Des Moines, Des Moines, Ia., Sun.-Wed., June 7-10.

American Society of Mechanical Engineers, Semi-Annual Meeting, Cleveland, Ohio, Mon.-Thurs., June 8-11.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., June 9.

North American Gasoline Tax Conference, Regional Conference, New York, N. Y., Fri., June 19.

American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J., Mon.-Fri., June 22-26.

New Jersey Oil Trade Assn., Summer Golf Outing, Newark, N. J., Thurs., June 25.

SEPTEMBER

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., Sept. 8.

National Assn. of Assessing Officers, 9th Annual Conference, Denver, Colo., Wed.-Sat., Sept. 9-12.

New England Tax Conference, Hotel Biltmore, Providence, R. I., Wed.-Thurs., Sept. 30-Oct. 1.

OCTOBER

Texas Mid-Continent Oil & Gas Assn., 23rd Annual Meeting, Dallas, Tex., Thurs.-Sat., Oct. 8-10.

American Society of Mechanical Engineers, Fall Meeting, Rochester, N. Y., Mon.-Wed., Oct. 12-14.

Indiana Independent Petroleum Assn., Hotel Severin, Indianapolis, Ind., Wed.-Thurs., Oct. 14-15.

National Tax Conference, Netherlands Plaza Hotel, Cincinnati, Ohio, Mon.-Thurs., Oct. 19-22.

Ohio Petroleum Marketers Assn., Annual Convention and Marketing Exposition, Hotel Deshler-Wallick, Columbus, Ohio, Wed-Thurs., Oct. 20-21.

National Lubricating Grease Institute, 10th Annual Meeting, New Orleans, La., Sun.-Thurs., Oct. 25-29.

1942 Illinois Mineral Industries Conference, Campus University of Illinois, Urbana, Ill., Fri.-Sat., Oct. 30-31.

NOVEMBER

American Petroleum Institute, 23rd Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 9-13.

American Institute of Chemical Engineers, 35th Annual Meeting, Netherland Plaza, Cincinnati, O., Mon.-Wed., Nov. 16-18.

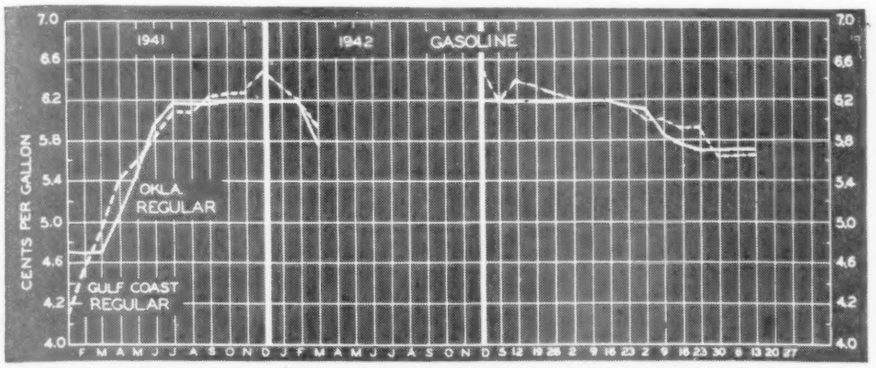
American Chemical Society, National Chemical Exposition and National Industrial Chemical Conference, Stevens Hotel, Chicago, Ill., Tues.-Sat., Nov. 17-21.

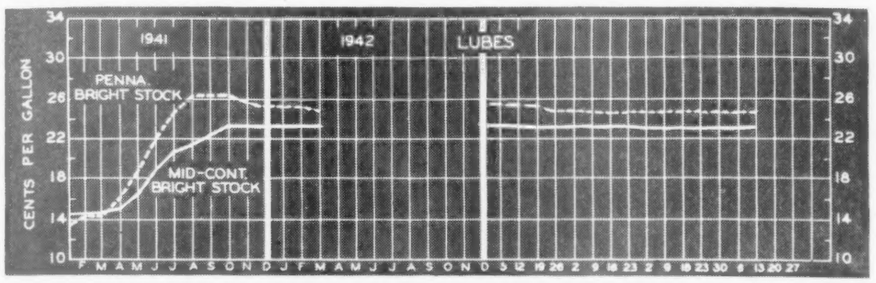
American Society of Mechanical Engineers, Annual Meeting, New York, N. Y., Mon.-Fri., Nov. 30-Dec. 4.

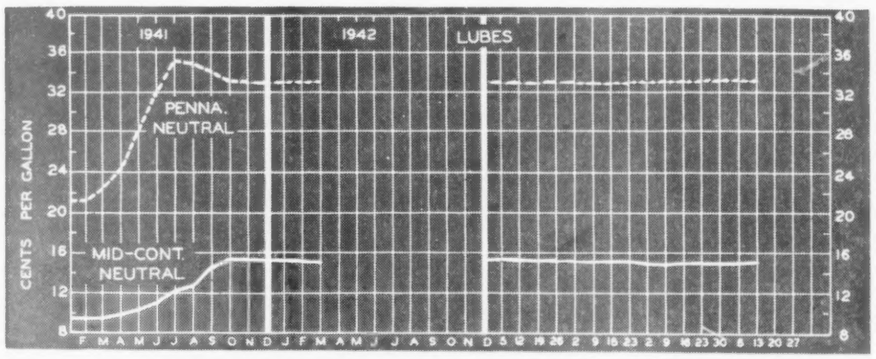
STATISTICS

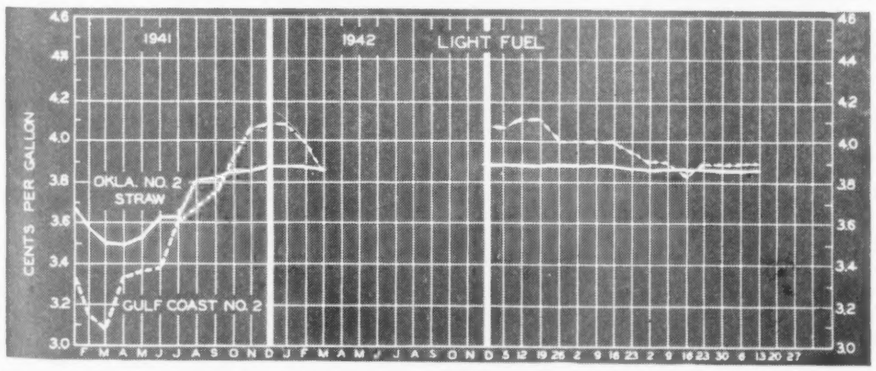
Refinery Prices

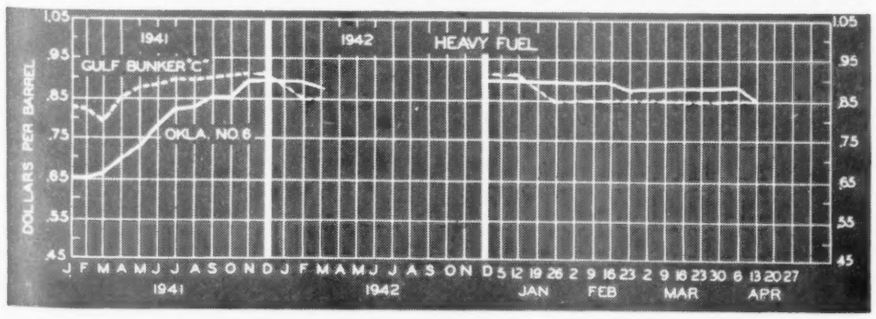
Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN











Pacific Coast Taxable Gasoline Sales

(Reported by California Oil & Gas Assn. Figures in gallons)

	Feb. 1942	Feb. 1941	% of Change
Arizona	9,282,565	9,101,938	+ 1.98
California	147,604,992	143,863,446	+ 2.60
Nevada	2,920,296	2,388,265	+22.28
Oregon	18,844,892	18,848,782	— 0.02
Washington	27,443,382	27,132,538	+ 1.15
Total 5 States.	206,096,129	201,334,969	+ 2.36

	2 Months Total January-February 1942	1941	% of Change
Arizona	18,902,562	18,441,937	+ 2.50
California	314,048,477	294,065,143	+ 6.80
Nevada	5,793,050	4,747,511	+22.02
Oregon	37,250,356	36,767,389	+ 1.31
Washington	55,228,590	53,472,174	+ 3.28
Total 5 States.	431,223,035	408,494,154	+ 5.56

G. C. R. A. Stocks Report

(Compiled by Gulf Coast Refiners Assn. from reports of member companies. Figures in barrels.)

	Apr. 1	Mar. 15
Gasoline Stocks, Total	2,786,203	2,509,401
Aviation Gasoline	398,289	326,655
Motor Fuel	2,101,628	2,029,754
Naphtha	286,286	153,992
Kerosine	151,947	130,724
Diesel Gas Oil	401,454	353,435
Diesel Fuel	36,537	26,892
Gas Oils, other types	1,188,039	1,342,895
No. 5 Fuel Oil	393,006	469,937
Bunker "C" Fuel Oil	476,232	690,787
Cutback Asphalt	26,583	35,224
Crude Runs (daily average)	106,627	95,731

Oil Burner Statistics

(Compiled by U. S. Bureau of Census. Figures include burners consuming Commercial Standard No. 1 fuel oil or heavier.)

	Feb. 1942	Jan. 1942	Feb. 1941	Feb. 1940
New orders, less cancellations	16,006	19,784	16,328	11,239
Unfilled orders, end of month	16,428	18,588	10,590	2,767
Shipments	17,996	19,253	16,091	11,522
Stocks, end of month	28,124	27,639	19,941	15,672

	2 Months Total January & February 1942	1941	1940
New orders, less cancellations	35,790	34,841	24,347
Shipments	37,249	32,294	24,485

Ohio Taxable Gasoline Consumption

(Compiled by Ohio Petroleum Marketers Assn. from state tax reports)

Month	Gallons
Feb. 1942	95,576,221
Feb. 1941	96,908,098
Loss	1,331,877
% Loss	1.37
Jan.-Feb. 1942	212,585,077
Jan.-Feb. 1941	207,491,357
Gain	5,093,720
% Gain	2.46

Year	Gallons
1941	1,548,175,943
1940	1,398,039,100
1939	1,302,378,618
1938	1,215,634,621
1937	1,234,481,548
1936	1,133,834,593
1935	1,014,925,319
1934	955,469,314
1933	886,641,024
1932	903,091,462

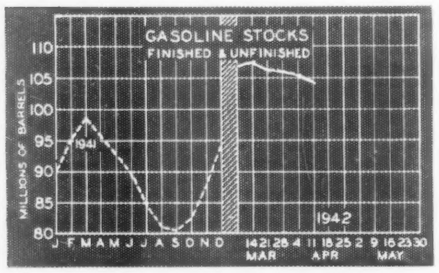
Pennsylvania Crude Runs

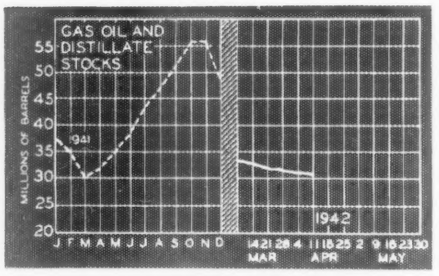
(Compiled by National Petroleum Assn. from reports of all companies which refined Pennsylvania crude. Figures in barrels.)

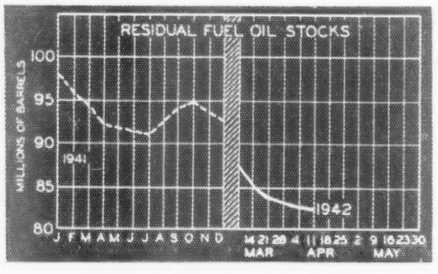
Week Ended	Daily Average
Jan. 3	72,172
Jan. 10	77,676
Jan. 17	81,658
Jan. 24	84,089
Jan. 31	82,603
Feb. 7	74,927
Feb. 14	77,436
Feb. 21	82,682
Feb. 28	84,173
Mar. 7	80,131
Mar. 14	76,862
Mar. 21	79,510
Mar. 28	84,185
Apr. 4	78,175
1941 Low	61,384
1941 High	84,326

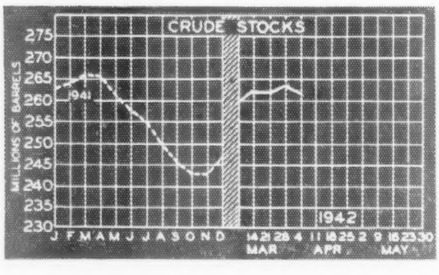
STATISTICS

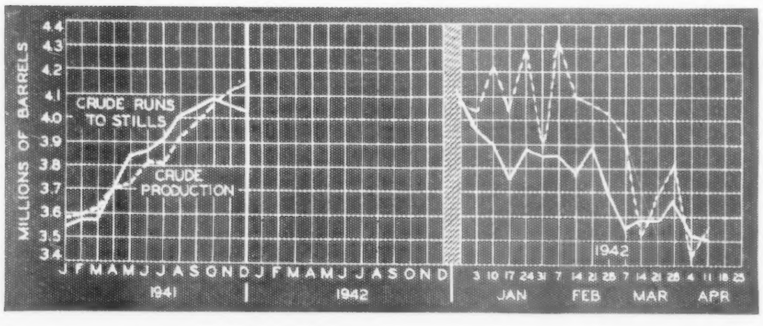
Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines.










MILLIONS OF BARRELS
CRUDE RUNS TO STILLS
CRUDE PRODUCTION
1941
1942
J F M A M J J A S O N D J F M A M J J A S O N D
3 10 17 24 31 7 14 21 28 7 14 21 28 4 11 18 25
JAN
FEB
MAR
APR

Refinery Operations

(American Petroleum Institute figures in thousands of barrels of 42 gallons each. Figures include reported totals plus an estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended		Per Cent of Refining Capacity Reporting Week Ended		Daily Average Crude Runs to Stills Week Ended		Per Cent of Reporting Capacity Operated Week Ended	
	Apr. 4	Mar. 28	Apr. 4	Mar. 28	Apr. 4	Mar. 28	Apr. 4	Mar. 28
East Coast	714	714	100.0	100.0	429	461	60.1	64.6
Appalachian	174	174	84.5	84.5	158	161	90.8	92.5
Ind., Ill., Ky.	784	784	84.9	84.9	691	728	88.1	92.9
Okla., Kans., Mo.	418	418	81.1	81.1	331	325	79.2	77.8
Inland Texas	266	266	65.0	65.0	157	188	59.0	70.7
Texas Gulf	1,130	1,130	91.3	91.3	866	893	76.6	79.0
La. Gulf	176	176	94.9	94.9	155	159	88.1	90.3
N. La., Ark.	97	97	51.5	51.5	74	68	76.3	70.1
Rocky Mt.	138	138	50.7	50.7	96	93	69.6	67.4
California	787	787	90.9	90.9	558	591	70.9	75.1
TOTAL U. S. B. of M. Basis	4,684	4,684	86.9	86.9	3,515	3,667	75.0	78.3
U. S. B. of M. Basis April 5, 1941					3,617			

	Gasoline Production at Refineries inc. Natural Blended Week Ended		Stocks of Finished and Unfinished Gasoline Week Ended		Total Stocks Gas Oil & Distillates Week Ended		Total Stocks Residual Fuel Oil Week Ended	
	Apr. 4	Mar. 28	Apr. 4	Mar. 28	Apr. 4	Mar. 28	Apr. 4	Mar. 28
East Coast	1,161	1,239	17,319	16,470	7,005	7,969	5,716	5,618
Appalachian	503	511	3,747	3,896	365	372	641	621
Ind., Ill., Ky.	2,586	2,696	23,250	23,470	2,662	2,665	3,685	3,684
Okla., Kans., Mo.	1,240	1,218	10,327	10,358	802	805	1,780	1,761
Inland Texas	789	809	3,859	3,850	93	84	1,089	1,115
Texas Gulf	2,391	2,526	20,842	21,937	6,989	6,311	7,500	7,896
La. Gulf	436	461	4,553	4,502	1,299	1,244	1,427	1,799
N. La., Ark.	225	197	1,237	1,252	106	110	230	251
Rocky Mt.	325	319	2,553	2,536	276	296	604	587
California	1,526	1,687	17,462	17,353	11,634	11,990	59,783	59,713
TOTAL U. S.—B. of M. Basis	11,180	11,663	105,149*	105,624†	31,231	31,756	82,455	83,045
U. S. —B. of M. Basis April 5, 1941	11,817		98,566		29,538		93,803	

*Finished 96,949,000 bbls.; Unfinished 8,200,000 bbls.
†Finished 97,345,000 bbls.; Unfinished 8,279,000 bbls.

N. P. N. Gasoline Index

	Dealer T.W.	Tank Car
	Cents per Gallon	
April 13	10.34	6.45
Month ago	10.17	6.48
Year ago	9.20	5.54

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of following markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. harbor, Philadelphia, Jacksonville, Boston and Gulf Coast.

N. P. N. Refinery Index

The Refinery Index shown below represents the return in cents per barrel (42 gallons) from refining a barrel of 36 gravity Mid-Continent crude into its various principal products. The index is calculated by subtracting the current price of crude at the well from the average price of refined products sold at current quoted Oklahoma refinery prices.

Date	Margin
Apr. 1	56.6
Month ago	65.2
Year ago	46.3

Crude Oil Stocks

(Bureau of Mines figures in thousands of barrels)

Grade or Origin	Mar. 28	Apr. 4	Change
Pennsylvania Grade	3,431	3,476	+ 45
Other Appalachian	1,522	1,405	— 117
Lima-Michigan	1,549	1,558	+ 9
Illinois-Indiana	19,337	18,918	— 419
Arkansas	2,977	2,974	— 3
Kansas	7,696	7,407	— 289
Louisiana:	13,669	13,537	— 132
Northern	4,223	4,227	+ 4
Gulf Coast	9,446	9,310	— 136
Mississippi	2,445	2,290	— 155
New Mexico	7,510	7,317	— 193
Oklahoma	50,513	50,328	— 185
Texas:	96,123	96,918	+ 795
East Coast	23,677	23,970	+ 293
West Texas	23,961	24,083	+ 122
Gulf Texas	25,889	25,580	— 309
Other Texas	22,596	23,285	+ 689
Rocky Mountain	16,628	16,465	— 163
California	38,454	38,137	— 317
Foreign	1,354	1,038	— 316
Total U. S. refinable	263,208	261,768	—1,440
Heavy in California	11,336	11,754	+ 418
East Coast refinery crude	8,181	7,266	— 915
East Coast pipe line crude	294	277	— 17
East Coast refined products	39,519	39,452	— 67
Total all oils	47,994	46,995	— 999
East Coast bonded stocks estimated[1]	900	850	— 50

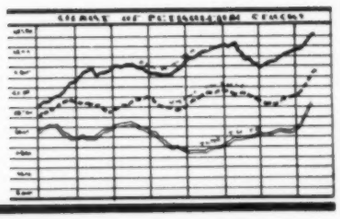
[1] Not included above—breakdown for April 4 is 150 for distillate and 700 for residual.

Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Apr. 11 Barrels (Daily Average)	WEEK ENDED Apr. 4 Barrels (Daily Average)		WEEK ENDED Apr. 11 Barrels (Daily Average)	WEEK ENDED Apr. 4 Barrels (Daily Average)
Oklahoma	393,400	389,900	Eastern (Ill. & Ind. excluded)	101,850	102,250
Kansas	236,100	246,700	Michigan	56,850	51,200
Nebraska	4,300	4,250	Wyoming	92,300	89,250
Texas	1,097,550	1,045,650	Montana	21,600	21,600
Louisiana	337,000	318,000	Colorado	4,850	5,100
Arkansas	73,550	75,650	New Mexico	79,250	82,200
Mississippi	99,050	98,450	California	628,000	555,800
Illinois	299,400	314,200			
Indiana	18,350	18,100	Total U. S.	3,543,400	3,418,300

Oil MARKETS



Gulf

NEW YORK, April 11.—First cargo sale of gasoline to be reported at the Gulf in a month took place the past week when 80,000 bbls. of 68-70 oct. (ASTM) unleaded sold at 5.25c, 0.25c under previous low quotations, for lifting in April.

Two cargo inquiries for No. 2 fuel were reported, one for 25-30,000 bbls., the other for "about 75,000 bbls." for prompt lifting. Cargoes of No. 2 were quoted at 3.75 to 4c.

Shutdown of refineries not primarily engaged in war effort as only course open under present storage conditions was rumored in some quarters. One source said he expected shutdown move by government within 30 days; another said he thought many refineries would close "but more from necessity than agreement."

Mid-Continent

TULSA, April 11.—Gasoline demand was "fair" to "very good" in the Mid-Continent the past week, with reports of increased demand from many refiners who said agricultural call and jobbers filling storage in anticipation of more severe tank car shortage were responsible. Demand for light heating oils was slipping into "usual seasonal decline" many refiners said, although shipments continued "up to expectations" and stocks were low and closely held.

Gasoline sales to East Coast—even though hampered by tank car scarcity—were helping refiners move their "weakest" product. Oklahoma refiner sold 75 cars 78 oct. Ethyl and 75 cars 72 oct. for shipment over 30 days, and another sold 300 cars 72-74 oct. for shipment by May 31. Sales prices were not revealed.

Sales prices for Grade 26-70 natural gasoline still vacillated between 2.25c and 2.375c, FOB Group 3, with most sellers quoting 2.375c. Quotations FOB Breckenridge remained at 2c and no open spot sales were reported.

Pennsylvania

NEW YORK, April 11.—Kerosine was up 0.125c in the lower Western Penna. field, with 45 and 46 w.w. quoted at 6.25 to 6.525c and 47 w.w. at 6.375 to 6.65c. Nos. 2 and 3 fuels also were priced 0.125c higher, and 36-40 gravity fuel 0.25c higher, at 5.75 to 6.125c for the 3 grades.

In upper field 46 w.w. was quoted 0.125c higher at 6.5c and No. 3 fuel was up 0.25c at 6.5 to 6.65c.

Kerosine and burning oils were extremely scarce, with "everybody sold out".

Atlantic Coast

NEW YORK, April 11.—Refined products prices at East Coast points were unchanged for the most part the week ended April 11 as suppliers waited announcement by OPA on possibility of further price advances.

Gasoline supplier at Mobile and Pensacola lowered his quotations for min. 80 oct. (research) and 68-70 oct. (ASTM) 0.3 to 0.5c at both points, to 7 to 7.2c and 6.6 to 6.8c for the 2 grades, respectively. One other supplier quoted min. 80 oct. at Mobile, at 7.5c. At Wilmington, 72-74 oct. (ASTM) grade was priced 0.25c higher at 8.3 to 8.375c.

Heavy fuel supply situation improved slightly as result of increased rail shipments into District 1, but trade saw little basis for optimism over continued improvement. Shipments from Mid-West were depleting stores in that area.

Mid-Western

CHICAGO, April 11.—Continued good demand for gasoline and fuel oils, particularly for East Coast shipments, was reported by refiners and tank car marketers in Chicago the past week. Reduction of 5c to 80c per bbl. in his quotation for No. 6 fuel oil "to meet competition" was reported by one refiner. One other refiner quoted 85c for No. 6. No changes reported in quotations for other products.

Open spot sales reported by 4 marketers during the week were: 6 cars 78 oct. Ethyl at 6c; 19 cars 70-72 oct. at 5.125c; 5 cars range oil at 4c; and 6 cars 41-43 kerosine at 4c, FOB Group 3.

Refiners Group 3 quotations ranged 6.375 to 6.75c for 78 oct., 5.375 to 6c for 72-74 oct., 4c for range oil, and 4.375 to 4.625c for 41-43 kerosine. Marketers quotations ranged 5.875 to 6.125c, 5 to 5.375c, 3.875 to 4c, and 3.875 to 4.375c, for the 4 products, respectively.

California

LOS ANGELES, April 10.—Gasoline market continued "weak" with quotations for third-grade ranging from 3.75c up. Natural gasoline was steady with spot sales reported at 5.25c. Heavy oils were described as in "excellent shape"; no changes reported in prices.

Index of Governmental Orders Concerning Petroleum Prices

Orders, "requests", "ceilings", and other statements issued by governmental agencies concerning prices of petroleum and products, prices for which are published in this market section of NATIONAL PETROLEUM NEWS, have been published as follows:

	NATIONAL PETROLEUM NEWS	PLATT'S OILGRAM	Platt's OIL-Law-GRAM
Nov. 7, '41—See Jan. 17, '42 below.			
Nov. 10, '41—See Jan. 17, '42 below.			
Nov. 21, '41—Maximum prices for paraffin wax	Nov. 26, pg. 5	Nov. 21, pg. 1	Pg. 66
Nov. 28, '41—See Jan. 17, '42 below.			
Jan. 17, '42—OPA letter restating contents of letters of Nov. 7, 10 and 28, '41:	Jan. 21, pg. 7	Jan. 19, pg. 1	Pg. 135
Jan. 28, '42—Amendment No. 1 to paraffin wax price schedule	Feb. 11, pg. 20	Jan. 29, pg. 1	Pg. 153
Feb. 2, '42—OPA Price Schedule No. 88	Feb. 11, pg. 17	Feb. 4, pg. 1	Pg. 159
Feb. 5, '42—Amendment No. 1 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Feb. 7, '42—Amendment No. 2 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Amendment No. 1 to Revised Price Schedule No. 88 (Combined form of Schedule 88 and its 4 previously issued amendments)	Mar. 11, pg. 15	Mar. 7, pg. 1	Pg. 205
Mar. 25, '42—Maximum prices for Penna. grade crude	Apr. 1, pg. 19	Mar. 25, pg. 1	Pg. 237
Mar. 26, '42—Maximum s.s. prices for regular-grade gasoline in East Coast & Pacific Northwest	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 243
Mar. 26, '42—Approval of 0.5c advance in gasoline, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Approval of 0.4c advance in kerosine and light fuels, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Maximum prices for Bunker "C" & No. 6 fuel, East & Gulf Coasts	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 242
Apr. 4, '42—Minimum 3c margin for operators in Curtailment Area		Apr. 7, pg. 2	Pg. 271
Apr. 4, '42—Prices for crude from wells opened since Oct. 1, '41		Apr. 6, pg. 1	Pg. 273

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Summary of Daily Gasoline Prices (Apr. 7 to April 13)

	Monday Apr. 13	Friday Apr. 10	Thursday Apr. 9	Wednesday Apr. 8	Tuesday Apr. 7
U. S. Motor, (ASTM octane)					
78 octane Ethyl:					
Oklahoma	6.375—6.875	6.25—6.875	6.25—6.875	6.25—6.875	6.25—6.875
Mid-Western (Group 3 basis)	6.5—6.75	6.375—6.75	6.375—6.75	6.375—6.75	6.375—6.75
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.5—6.625	6.375—6.5	6.375—6.5	6.375—6.5	6.375—6.5
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.625 (2)	6.625 (2)	6.375—6.625	6.375—6.625	6.375—6.625
72-74 octane:					
Oklahoma	5.375—6	5.375—6	5.375—6	5.375—6	5.375—6
Mid-Western (Group 3 basis)	5.375—6	5.375—6	5.375—6	5.375—6	5.375—6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.5—5.75	5.375—5.75	5.375—5.75	5.375—5.75	5.375—5.75
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625—5.75	5.625—5.75	5.375—5.75	5.375—5.75	5.375—5.75
63-66 octane:					
Oklahoma	5—5.625	5—5.625	5—5.625	5—5.625	5—5.625
Mid-Western (Group 3 basis)	5—5.625	5—5.625	5—5.625	5—5.625	5—5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.125—5.2	5—5.2	5—5.2	5—5.2	5—5.2
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.375 (1)	5.375 (1)	5.375 (1)	5.375 (1)	5.375 (1)
60 octane & below:					
Oklahoma	4.625—5.25	4.625—5.25	4.625—5.25	4.625—5.25	4.625—5.25
Mid-Western (Group 3 basis)	4.625—5.25	4.625—5.25	4.625—5.25	4.625—5.25	4.625—5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.5—5	4.5—5	4.5—5	4.5—5	4.5—5
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.875—5	4.875—5	4.625—5	4.625—5	4.625—5
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	8.8	8.8	8.8	8.8	8.8
New York harbor, barges	8.7—8.8	8.7—8.8	8.7—8.8	8.7—8.8	8.7—8.8
Philadelphia district	8.8	8.8	8.8	8.8	8.8
Baltimore district	8.55	8.55	8.55	8.55	8.55
Motor Gasoline:					
Western Penna. Bradford-Warren:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.75 (2)	7.75 (2)	7.75 (2)	7.75 (2)	7.75 (2)
Western Penna. Other Districts:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7—7.5	7—7.5	7—7.5	7—7.5	7—7.5

REFINERY PRICES

Gasoline—U. S. Motor (ASTM) except where otherwise specified

Prices in Effect	April 13	April 6
OKLAHOMA		
78 oct. Ethyl	6.375—6.875	6.25—6.875
72-74 oct.	5.375—6	5.375—6
63-66 oct.	5—5.625	5—5.625
60 oct. & below	4.625—5.25	4.625—5.25
60-62 400 e.p.	4.75 (1)	4.75 (1)
MID-WESTERN (Group 3 basis)		
78 oct. Ethyl	6.5—6.75	6.375—6.75
72-74 oct.	5.375—6	5.375—6
63-66 oct.	5—5.625	5—5.625
60 oct. & below	4.625—5.25	4.625—5.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	6.5—6.625	6.375—6.5
72-74 oct.	5.5—5.75	5.375—5.75
63-66 oct.	5.125—5.2	5—5.2
60 oct. & below	4.5—5	4.6—5
60-62, 400 e.p.	5 (1)	4.875 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	6.625 (2)	6.375—6.625
72-74 oct.	5.625—5.75	5.375—5.75
63-66 oct.	5.375 (1)	5.375 (1)
60 oct. & below	4.875—5	4.625—5
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	6.875 (2)	6.875—7 (2)
72-74 oct.	5.75-5.875 (2)	5.875—6 (2)
67-69 oct.	5.375 (1)	5.375 (1)
62 oct. & below	5—5.125 (2)	5.125—5.25 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	No Price	No Price
60-62, 400 e.p.	No Price	No Price
KANSAS (For Kansas destinations only)		
78 oct. Ethyl	7.125 (1)	7.125 (1)
72-74 oct.	5.875—6.2 (2)	5.875—6.2 (2)
63-66 oct.	5.5—5.8 (2)	5.5—5.8 (2)
60 oct. & below	5.125—5.4 (2)	5.125—5.4 (2)

Prices in Effect	April 13	April 6
ARK. (For shipment to Ark. & La.)		
72-74 oct., leaded	5.875 (1)	5.75 (1)
70-72 oct. "	5.5 (1)	5.375 (1)
62 oct. "	5.125 (1)	5 (1)
60 oct. & below, unleaded	5 (1)	4.875 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.75 (2)	7.75 (2)
Other districts:		
"Q" Gasoline, Min. 70 Oct. (ASTM)	7—7.5	7—7.3
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group)		
U.S. Motor: (Oct. ASTM):		
72-74 oct.	8—8.5	8—8.5
67-69 oct.	7.5—7.75 (2)	7.5—7.75 (2)
Str. run gasoline, excluding Detroit shpt.	5—5.5	5—5.5
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	4.75—8	4.75—8
54-58 grav., for outside state shipment	3.75—7	3.75—7
54-58 grav., for instate shipment	3.75—7	3.75—7

Kerosine, Gas & Fuel Oils

Prices in Effect	April 13	April 6
OKLAHOMA		
41-43 grav. w.w.	4.375—4.5	4.375—4.5
42-44 grav. w.w.	4.5	4.5
Range Oil	4—4.375	4—4.375
No. 1 P.W.	3.875—4.25	3.875—4.25
No. 1 straw	3.5—4	3.5—4
No. 2 straw	3.6—4.125	3.6—4.125
No. 3 fuel	3.5	3.5
U.G.I. Gas Oil	3.625 (1)	3.625 (1)
No. 6 fuel	$0.80-$0.90 (2)	$0.85-$0.90 (2)
14-16 fuel	$0.95 (1)	$0.95 (1)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375—4.625	4.375—4.625
42-44 grav. w.w.	4.5 (2)	4.5 (2)
Range Oil	4 (1)	4 (1)
No. 1 p.w.	3.875—4.125	3.875—4.125
No. 2 straw	3.6—3.625	3.6—3.625
No. 3	3.5	3.5
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.80-$0.85 (2)	$0.85 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4.25—4.75	4.25—4.75
No. 1 P.W.	4.2—4.3 (2)	4.2—4.3 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w.	No Price	No Price
No. 1 straw	4.3 (1)	4.3 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	No Price	No Price
42-44 gravity w.w.	4.8-4.875 (2)	4.8-4.875 (2)
No. 1 p.w.	4.25-4.3 (2)	4.25-4.3 (2)
No. 6 fuel	$0.90 (1)	$0.90 (1)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Kerosine, Gas & Fuel Oil

(Continued)

Prices In Effect	April 13	April 6
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.5 (1)	3.5 (1)
No. 3 fuel	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only.	4.875 (1)	4.875 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6.25 – 6.65	6.25 – 6.65
46 grav. w.w.	6.5 (1)	6.775 (1)
No. 1 fuel	6.125– 6.65	6.125– 6.65
No. 2 "	6.125– 6.525	6.125– 6.525
No. 3 "	6.5 – 6.65 (2)	6.25–6.65 (2)
36-40 gravity	6.25–6.5 (2)	6.25 (2)
Other districts:		
45 grav. w.w.	6.25 – 6.525	6.125– 6.525
46 grav. w.w.	6.25 –6.525	6.125–6.525
47 grav. w.w.	6.375– 6.65	6.25 – 6.65
No. 1 fuel	5.875– 6.25	5.875– 6.25
No. 2 "	5.75 – 6.125	5.625– 6.125
No. 3 "	5.75 – 6.125	5.625– 6.025
36-40 grav., Pittsburgh dist. prices excluded	5.75 – 6.125	5.5 – 6
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.5 – 6	5.5 – 6
P.W. Distillate	5.5	5.5
No. 3 gas oil, Straw.	5 – 5.3	5 – 5.3
U.G.I. gas oil	4.5 (2)	4.5 (2)
Fuel Oils (Vis. at 100).		
300-500 Vis.	4 (2)	4 (2)
100-300 Vis.	4.5 (2)	4.5 (2)
OHIO (S. O. quotations for statewide delivery)		
Kerosine	7	7
CALIFORNIA		
40-43 grav. w.w.	4.5 – 6	4.5 – 6
San Joaquin Valley:		
Heavy fuel	$0.75 –$0.85	$0.75 –$0.85
Light fuel	$0.80 –$0.95	$0.80 –$0.95
Diesel fuel	2.75 – 4	2.625– 4
Stove dist.	2.75 – 5	2.625– 5
Los Angeles:		
Heavy fuel	$0.75 –$0.85	$0.75 –$0.85
Light fuel	$0.75 –$0.95	$0.80 –$0.95
Diesel fuel	2.75 – 4	2.625– 4
Stove dist.	2.75 – 5	2.625– 5
San Francisco:		
Heavy fuel	$0.90	$0.90
Light fuel	$1.00	$1.00
Diesel fuel	4.5	4.5
Stove dist.	5.5	5.5

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	40.5 (1)	40.5 (1)
10 p.t.	39.5 (1)	39.5 (1)
15 p.t.	38.5 (1)	38.5 (1)
25 p.t.	33	33
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	38.5 (1)	38.5 (1)
10 p.t.	37.5 (1)	37.5 (1)
15 p.t.	36.5 (1)	36.5 (1)
25 p.t.	31	31
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	25	25
600 S.R. filterable	15	15
650 S.R.	15.5	15.5
600 fl.	16	16
630 fl.	17	17

MID-CONTINENT (F. o. b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis.	Color		
60-85	No. 2	8	8
86-110	No. 2	8.5	8.5
150	No. 3	14.5	14.5
180	No. 3	15	15
200	No. 3	15	15
250	No. 3	16–16.5	16–16.5
280	No. 3	17	17
300	No. 3	18	18

Lubricating Oils (Cont'd)

Prices In Effect	April 13	April 6
Red Oils:		
180—No. 5	15 (1)	15 (1)
200—No. 5	15 (1)	15 (1)
280—No. 5	No Price	No Price
300—No. 5	17.5 (2)	17.5 (2)

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.	23	23
10 to 25 p.p.	22.5–23	22.5–23
25 to 40 p.p.	23 (1)	23 (1)
150-160 Vis. E	22 (2)	22 (2)
120 Vis. D:		
0 to 10 p.p.	22 (2)	22 (2)
600 S.R. Dark Green	8.5 (1)	8.5 (1)
600 S.R. Olive Green	10–11	10–11
631 S.R.	18.5 (1)	18.5 (1)
Black Oil	5.5 (1)	5.5 (1)

SOUTH TEXAS Neutral Oils

Vis.	Color		
Pale Oils: (*Vis. at 100° F.*)			
100	No. 1½-2½	6.5	6.5
200	No. 2-3	8.75	8.75
300	No. 2-3	9.25	9.25
500	No. 2½-3½	10	10
750	No. 3-4	10.25	10.25
1200	No. 3-4	10.375	10.375
2000	No. 4	10.5	10.5
Red Oils:			
100	No. 5-6	6.5 (2)	6.5 (2)
200	No. 5-6	8.75	8.75
300	No. 5-6	9.25	9.25
500	No. 5-6	10	10
750	No. 5-6	10.25	10.25
1200	No. 5-6	10.375	10.375
2000	No. 5-6	10.5–11.5	10.5–11.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis.	Color		
60-85	No. 2	9.5 (1)	9.5 (1)
86-110	No. 2	10 (1)	10 (1)
150	No. 3	15.5 (1)	15.5 (1)
180	No. 3	16 (1)	16 (1)
200	No. 3	16 (1)	16 (1)
250	No. 3	17 (1)	17 (1)
Red Oils:			
180	No. 5	16 (1)	16 (1)
200	No. 5	16 (1)	16 (1)
250	No. 5	17 (1)	17 (1)
280	No. 5	18 (1)	18 (1)
300	No. 5	18.5 (1)	18.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks, 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3

Grade 26-70 ..... 2.375 (Sales) 2.25-2.375(Sales)

FOB BRECKENRIDGE

Grade 26-70 ..... 2 (Qtns.) 2 (Qtns.)

CALIFORNIA (FOB plants in Los Angeles basin) 75-85, 350-375 e.p. for blending ..... 4.75 – 5.375 4.75 – 5.375

Naphtha and Solvent

Prices in Effect	April 13	April 6
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625
WESTERN PENNA.		
Bradford-Warren District:		
Stoddard Solvent	7.5 (1)	7.5 (1)
Other Districts:		
Untreated naphtha	7 (2)	7 (2)
Stoddard solvent	7.25 – 7.75	7.25 – 7.75
OHIO (S. O. quotations for statewide delivery): V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L.)		
122-124 A.m.p.	4.25	4.25
124-126 A.m.p.	4.25	4.25

OKLAHOMA (C.L., FOB Refinery)

Semi-refined:

128 AMP min., white, 50 kilo bags	No Price	No Price
132-134 AMP, bbls.	5.25 (1)	5.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:

122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.125	5.375– 6.125
Cream White	4.375– 5.375	4.375– 5.375
Light Amber	3.375– 3.875	3.375– 3.875
Amber	3.125– 3.625	3.125– 3.625
Red	3 – 3.5	3 – 3.5

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

(Cents Per Gal.)

	Gasoline Kerosine	*Distillate Fuel Oil	Gas Oil and or Residual Fuel Oil
Chicago, Ill.	2.508	2.508	2.516
Decatur, Ill.	2.244	2.244	2.442
Joliet, Ill.	2.508	2.508	2.516
Peoria, Ill.	2.310	2.310	2.442
Quincy, Ill.	2.178	2.178	2.294
Indianapolis, Ind.	2.640	3.034	3.034
Evansville, Ind.	2.442	2.886	2.886
South Bend, Ind.	3.135	3.135	3.330
Detroit, Mich.	4.290	3.996	3.996
Grand Rapids, Mich.	3.828	3.828	3.922
Saginaw, Mich.	4.290	4.144	4.144
Green Bay, Wis.	2.838	2.838	3.182
Milwaukee, Wis.	2.706	2.706	2.738
La Crosse, Wis.	2.574	2.574	2.886
Minneapolis-St. Paul	2.574	2.574	2.886
Duluth, Minn.	2.838	2.838	3.256
Mankota, Minn.	2.574	2.574	2.886
Des Moines, Ia.	2.046	2.046	2.294
Davenport, Ia.	2.310	2.310	2.442
Mason City, Ia.	2.376	2.376	2.664
St. Louis, Mo.	2.046	2.046	2.072
Kansas City, Mo.	1.518	1.518	1.776
St. Joseph, Mo.	1.518	1.518	1.776
Fargo, N. D.	3.564	3.564	3.996
Huron, S. D.	3.036	3.036	3.330
Wichita			
From Ponca City	0.528	0.528	0.592
From Tulsa	0.858	0.858	0.962
From Cushing	0.792	0.792	0.888

*Not suitable for illuminating purposes.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices In Effect Apr. 13

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	9.3 – 9.8	8.8	8.8 (1)
N. Y. Harb., barges	9.3(1)	8.7 – 8.8	8.7 (1)
Albany	8.9 (2)	8.9 –9.1 (2	....
Philadelphia	9.05 – 9.3	8.8	8.8(1)
Baltimore	8.55 (2)	8.55	8.45 (1)
Norfolk	8.42 – 8.55	8.3 – 8.375	8.1 (2)
Wilmington, N.C.	8.3 – 8.4	8.3 – 8.375	8 –8.1(2)
Charleston	8.4 – 8.55	8.3(1)	7.7 –8 (2)
Savannah	8 –8.5 (2)	7.7 – 8.375	7.6 (1)
Jacksonville	7.875– 8.5	7.75 – 8	7.6–7.875 (2)
Miami	7.875–8.5 (2)	....	7.5 (1)
Tampa	7.75 – 8.5	7.5 – 8	7.6–7.875 (2)
Pensacola	7 –7.2 (1)	....	6.6 –6.8 (1)
Mobile	7 –7.5 (2)	7 –7.375(2)	6.6 –6.8 (1)
New Orleans	6.75–7.37 (2)	6.25 – 7	....
Portland	9.1 – 9.4	9.1 – 9.4	....
Boston	9 – 9.3	9 – 9.3	9.3 (1)
Providence	9 – 9.3	9 – 9.3	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.7	5.6	5.6	$1.85–$2.00 (a)	$1.55
N. Y. Harb., barges	5.6	5.5	5.5	....	....
Albany	5.9	5.7	5.7	$2.15 (1)	$1.75 (1)
Philadelphia	5.8	5.6	5.6	$1.88	$1.55
Baltimore	5.8	5.6	5.6	$1.88 (1)	$1.55
Norfolk	5.7 –5.8	5.6	5.6(2)	....	$1.55 (2)
Wilmington, N.C.	5.65	5.6	....	....	....
Charleston	5.8	5.6(2)	....	....	$1.50 (2)
Savannah	5.25 – 5.65	....	....	....	$1.50 (1)
Jacksonville	5.25 – 5.65	5.15(2)	5.15(1)	....	$1.50 (1)
Miami	5.65(2)	....	....	....	....
Tampa	5.25 – 5.65	5.15(2)	....	....	$1.45 (1)
Pensacola	4.8(1)	....	....	....	....
Mobile	4.75	....	....	....	....
New Orleans	4.25 – 4.875	3.75 –3.875(2)	....	$1.25 (1)	$0.85 (2)
Portland	5.9	5.7	5.7(2)	$2.15 (1)	$1.55 (2)
Boston	5.8	5.6	5.6(2)	$1.85 (2)	$1.55
Providence	5.8	5.6	5.6	$1.80 –$1.85	$1.55

(a) This price is for a straight-run, low pour test No. 5 fuel.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.55	$2.318	5.6 –5.7 (2)	5.7 (2)
Albany	$1.75 (1)	$2.518 (1)	5.7 (2)	5.9 (1)
Philadelphia	$1.55	$2.318	....	....
Baltimore	$1.55	$2.318	5.6 (1)	5.6 (1)
Norfolk	$1.55	$2.318	5.6 (1)	5.6 (1)
Charleston	$1.50	$2.318 (2)	5.6 (1)	5.6 (1)
Savannah	$1.50 (1)	$2.158 (1)	....	....
Jacksonville	$1.50 (2)	$2.158-2.163 (2)	....	....
Tampa	$1.45 (2)	$2.158-2.163 (2)	....	....
New Orleans	$0.85	$1.55 (2)	3.75 (1)	3.75 (1)
Portland	$1.55 (2)	$2.418 (2)	5.7 (1)	5.8 (1)
Boston	$1.55	$2.318	5.6 (2)	5.7 (2)
Providence	$1.55	$2.318 (2)	5.6 (1)	5.7 (1)

Wax

(Melting points are AMP, 3° higher than EMP. Export prices FAS c.l. Domestic prices FOB, in bags, c.l. Scale solid; fully refined slabs.)

Prices In Effect Apr. 13

Crude Scale:	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	4.65 (1)	....	4.65 (1)
122-4 White	....	No Price	No Price
124-6 White	4.65 (1)	No Price	4.65 (1)
Fully Refined:			
123-5	5.6 (1)	5.6 (1&a)	5.6 (1)
125-7	5.6 (1)	5.6 (1&a)	5.6 (1)
128-30	6 (1)	6 (2)	6 (1)
130-32	6.25 (1)	6.25 (1)	6.25 (1)
133-5	6.55 (1)	6.55 (2)	6.55 (1)
135-7	6.8 (1)	6.8 (1)	6.8 (1)

108-11 White Match wax (tight bbls.)..... No Price

(a) 0.4c discount generally given for slabs loose.

Naphtha

Prices In Effect Apr. 13

	V.M.&P. Naphtha	Mineral Spirits
Baltimore	10.5 –11 (2)	9.5 –10
New York Harbor	11 (2)	10
Philadelphia district	11 (2)	10
Boston	11.5 (2)	10.5
Providence	11.5 (1)	10.5 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices In Effect	Apr. 13		Apr. 6	
375 e.p. blend, 70 oct.	6.375– 6.5		6.375– 6.5	
390 e.p. blend, 68 oct.	6.25 – 6.375		6.25 – 6.375	
390 e.p. blend, 66 oct.	5.875– 6		5.875– 6	
400 e.p. blend, 65 oct. min.	5.875– 6		5.875– 6	
U. S. Motor, under 65 octane	5.625		5.625	
38-40 grav. w.w. kero., 150 fire point	4.5 – 5		4.5 – 5	
41-43 grav., w.w. kero.	4.75 – 5		4.75 – 5	
44-grav. w.w. kero	5 – 5.5		5 – 5.5	
Diesel fuel, 24 & above	$1.25	$1.30	$1.25	–$1.30
Diesel fuel, under 24	$1.15	–$1.25	$1.15	–$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25	$1.35	$1.25	–$1.35
Grade C fuel, Pac. Spec. 400	$0.85	–$0.90	$0.85	–$0.90
In Ship's Bunkers, or deep tank lots:				
Diesel fuel, Pac. Spec. 200	$1.35	–$1.45	$1.35	–$1.45
Grade C fuel, Pac. Spec. 400	$0.85	–$0.90	$0.85	–$0.90
Cased Goods: (Per case)				
375-400 e.p. blend, 65 oct. & above	$1.50	$1.60	$1.50	–$1.60
400 e.p. blend, under 65 oct.	$1.40	–$1.50	$1.40	–$1.50
U. S. Motor	$1.35	–$1.45	$1.35	–$1.45
40-43 grav. w.w. kero., 150 fire point	$1.30	–$1.40	$1.30	–$1.40
Kero., p.w.	$1.25	–$1.35	$1.25	–$1.35

Tanker Rates

(Approximate last paid rates, cents per bbl; Gulf-N. Atlantic, not East of N. Y.)

Hvy. Crude & Fuel (10 to 19.9 gravity)	48
Light Crude, (30 grav. or Lighter)	43
Gasoline	40
Kerosine	40
No. 2 Fuel	42

Note: 200% surcharge perimitted on above rates by War Shipping Administration "to cover increased wartime operating expenses."

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices In Effect Apr. 13

Domestic

Motor Gasoline	
Min. 80 oct. '39 Research, max. 2cc lead	5.5
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.25 – 6
70 oct. unleaded " "	5.25 –5.75
68 oct. " "	5.25 – 5.875
65 oct. " "	5.25 – 5.75
60 oct " "	5
41-43 w.w. kerosine	3.875– 4.375
No. 2 fuel	3.75 – 4
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25
Diesel Oil, ship's bunkers (ex-lighterage)	$1.55–$1.68
Bunker C, " " "	$0.85–$0.95
Bunker C, cargoes	$0.85

Export

Motor Gasoline	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.25 – 6
70 oct. unleaded "	5.25 –5.75
68 oct. " "	5.25 – 5.875
65 oct. " "	5.25 – 5.75
60 oct. " "	5
41-43 w.w. kerosine	3.875– 4.375
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

Apr. 13

	Steel Drums	Bulk
200 vis. D 210 brt. stock	34–35 (2)	28.8 (2)
150 vis. D 210 brt. stock 0-10 p.p.	30–31 (2)	24.8(2)
10-25 p.p.	29.5 (1)	24.3 (1)
100 vis. D 210 brt. stock 0-10 p.p.	29.5 (1)	24.3 (1)
10-25 p.p.	29 (1)	23.8 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	22 (1)	16.8 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals)

Unfiltered Pale Oils:	Apr. 13	Apr. 6
100 No. 3	6.25 (1)	6.25(1)
200 No. 3	7.75 (1)	7.75 (1)
300 No. 3	8.25 (1)	8.25 (1)
500 No. 3½	9.25 (1)	9.25 (1)
750 No. 4	9.75 (1)	9.75 (1)
1200 No. 4	10.25 (1)	10.25 (1)
2000 No. 4	....	....
Red Oils:		
100 No. 5-6	....	....
200 No. 5-6	7.75 (1)	7.75 (1)
300 No. 5-6	8.25 (1)	8.25 (1)
500 No. 5-6	9.25 (1)	9.25 (1)
750 No. 5-6	9.75 (1)	9.75 (1)
1200 No. 5-6	10.25 (1)	10.25 (1)
2000 No. 5-6	11 (1)	11 (1)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Apr. 13, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J	9.8	10.3	4.5	8.3
*Newark, N. J	9.8	10.3	4.5	8.3
Annapolis, Md	10.15	10.65	5.5	10.1
Baltimore, Md	9.55	10.05	5.5	9.1
Cumberland, Md	10.95	11.45	5.5	10.6
Washington, D. C	9.8	10.3	4.5	9.6
Danville, Va	11.25	11.75	6.5	10.85
Norfolk, Va	10.05	10.55	6.5	10.6
Petersburg, Va	10.35	10.85	6.5	11.6
Richmond, Va	10.35	10.85	6.5	11.6
Roanoke, Va	11.55	12.05	6.5	11.1
Charleston, W. Va	11.85	12.35	6.5	11.9
Parkersburg, W. Va	11.15	11.65	6.5	11.6
Wheeling, W. Va	11.15	11.65	6.5	12.2
Charlotte, N. C	11.7	12.2	7.5	9.9
Hickory, N. C	12.25	12.75	7.5	10.9
Mt. Airy, N. C	12.1	12.6	7.5	10.1
Raleigh, N. C	11.45	11.95	7.5	10.9
Salisbury, N. C	11.75	12.25	7.5	11.3
Charleston, S. C	10.55	11.05	7.5	....
Columbia, S. C	11.4	11.9	7.5	....
Spartanburg, S. C	12.1	12.6	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J	13	14.5
Baltimore, Md	15.5	....
Washington, D. C	15.5	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J	8.3	7.6	7.6
Newark	8.3	7.6	7.6
Annapolis, Md	....	7.85	....
Baltimore	8.1	7.6	7.6
Washington, D. C	8.6	8	8
Norfolk, Va	8.3	7.4	7.4
Petersburg	8.6	7.6	....
Richmond	8.6	7.6	7.6
Charlotte, N. C	8.9	9	....
Hickory	....	8.6	....
Raleigh	9.9	8.7	....
Charleston, S. C	....	7.6	....
Columbia	....	8.6	....
Spartanburg	....	9.4	....

*Effective Jan. 23, '42, minimum retail resale price of 13.8c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gasoline Taxes
New York City			
Manhattan & Bronx	9.7	10.2	*5.5
Kings & Queens	9.7	10.2	*5.5
Richmond	9.3	9.8	*5.5
Albany, N. Y	9.5	10	5.5
Binghamton, N. Y	10.6	11.1	5.5
Buffalo, N. Y	9.8	10.3	5.5
Jamestown, N. Y	10	10.5	5.5
Mt. Vernon, N. Y	9.7	10.2	5.5
Plattsburg, N. Y	10.6	11.1	5.5
Rochester, N. Y	10.4	10.9	5.5
Syracuse, N. Y	10.1	10.6	5.5
Bridgeport, Conn	9.6	10.1	4.5
Danbury, Conn	10.1	10.6	4.5
Hartford, Conn	10.2	10.7	4.5
New Haven, Conn	9.6	10.1	4.5
Bangor, Me	10.3	10.8	5.5
Portland, Me	9.9	10.4	5.5
Boston, Mass	9.5	10	4.5
Concord, N. H	11	11.5	5.5
Lancaster, N. H	11.6	12.1	5.5
Manchester, N. H	10.9	11.4	5.5
Providence, R. I	9.6	10.1	4.5
Burlington, Vt	10.5	11	5.5
Rutland, Vt	10.6	11.1	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y	12.4	13.6
New York City	11	12
Rochester, N. Y	13.2	14.4
Syracuse, N. Y	14	....
Boston, Mass	12	13
Bridgeport, Conn	†16.3	†17.3
Hartford, Conn	†16.3	†17.3
Providence, R. I	13	14

	Kerosine Yard	Kerosine TW	Mobilfuel Diesel TC	Mobilfuel Diesel TW	Mobilheat Fuel Yard	Mobilheat Fuel TW
New York:						
Manhat'n & Bronx	6	8.4	....	7.9	5.9	7.6
Kings & Queens	6	8.4	....	7.9	5.9	7.6
Richmond	5.9	8.4	....	....	5.8	7.4
Albany	6.1	8.1	5.9	7.9	5.9	7.6
Binghamton	7.5	9.5	....	9.3	7.3	8.8
Buffalo	7.2	9.2	7.1	9.1	7.1	8.6
Jamestown	7.3	9.3	....	9.2	7.2	8.6
Mt. Vernon	6.1	8.6	....	8.6	....	7.6
Plattsburg	6.7	8.7	....	8.5	6.5	8
Rochester	7.3	9.3	6.8	8.8	6.8	8.3
Syracuse	7.1	9.1	6.7	8.7	6.7	8.2
Conn.:						
Bridgeport	6.2	....	....	....	6.1	7.4
Danbury	6.7	....	....	....	6.4	7.4
Hartford	6.3	....	....	8.1	6.1	7.6
New Haven	6	....	....	7.9	5.9	7.5
Maine:						
Bangor	6.5	8.5	6.3	8.3	6.3	7.7
Portland	6.1	8.5	5.9	7.9	5.9	7.6
Mass.:						
Boston	6.2	8.4	5.8	7.8	6	7.6
N. H.:						
Concord	7	9	....	....	7.1	8.6
Lancaster	8.1	10.1	....	....	8.1	9.6
Manchester	7.1	9.4	....	....	6.8	8.3
R. I.:						
Providence	6.2	8.2	5.8	7.8	6	7.5
Vermont:						
Burlington	6.7	....	6.4	8.4	6.4	7.8
Rutland	6.9	....	....	8.6	6.6	8.1

*Does not include 1% city sales tax applicable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.W	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa	9.8	10.3	5.5	10.55
Pittsburgh	10.3	10.8	5.5	10.9
Allentown	10.3	10.8	5.5	10.9
Erie	10.3	10.8	5.5	10.9
Scranton	10.3	10.8	5.5	10.9
Altoona	10.3	10.8	5.5	10.9
Emporium	10.3	10.8	5.5	10.9
Indiana	10.3	10.8	5.5	10.9
Uniontown	10.3	10.8	5.5	10.9
Harrisburg	10.3	10.8	5.5	10.9
Williamsport	10.3	10.8	5.5	10.9
Dover, Del	....	10.8	5.5	10.9
Wilmington, Del	....	10.3	5.5	10.4
Boston, Mass	....	10.5	4.5	8.4
Springfield, Mass	....	11.4	4.5	9.3
Worcester, Mass	....	11.1	4.5	8.9
Fall River, Mass	....	10.6	4.5	9.0
Hartford, Conn	....	11.2	4.5	8.3
New Haven, Conn	....	10.6	4.5	9.4
Providence, R. I	....	10.6	4.5	9
Atlantic City, N. J	....	10.3	4.5	8.3
Camden, N. J	....	10.3	4.5	8.3
Trenton, N. J	....	10.3	4.5	8.3
Annapolis, Md	....	10.65	5.5	9.1
Baltimore, Md	....	10.05	5.5	8.1
Hagerstown, Md	....	11.15	5.5	8.6
Richmond, Va	....	10.85	6.5	10.6
Wilmington, N. C	....	11.15	7.5	10.2
Brunswick, Ga	....	10	7.5	*9.4
Jacksonville, Fla	....	9	8.5	10.4

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa	11	12.5
Lancaster, Pa	12	13.5
Pittsburgh, Pa	12.5	12.5

	Fuel Oils—T.W. 1	2	3	5	6
Phila., Pa	8.4	7.6	7.6	5.2	4.2
Allentown, Pa	8.9	7.9	7.9	....	....
Wilmington, Del	8.4	7.6	7.6	....	....
Springfield, Mass	9.3	8	8	....	....
Worcester, Mass	8.9	7.9	7.9	....	....
Hartford, Conn	8.3	7.6	7.6	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	**Resellers	‡S.S.	Gasoline Taxes	†Kerosine Taxes	Kerosine T.W.
Ohio, Statewide	12	10	13.5	5.5	9	
Akron	12	9.5	12.5	5.5	9	
Cincinnati	12	9.5	12.5	5.5	9	
Cleveland	12	9.5	12.5	5.5	9	
Columbus	12	9.5	12.5	5.5	9	
Dayton	12	9.5	12.5	5.5	9	
Marietta	12	9.5	12.5	5.5	9	
Portsmouth	12	9.5	12.5	5.5	9	
Toledo	12	9.5	12.5	5.5	9	
Youngstown	12	9.5	12.5	5.5	9	

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 73 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphtha—T.W. Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8	8	7.5	....
Cleveland	10	10	9.5	7.25

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky	9.5	8.5	6.5	9
Lexington, Ky	11	8.5	6.5	9
Louisville, Ky	10.5	9.5	6.5	8.5
Paducah, Ky	8	8	6.5	8.5
Jackson, Miss	10.5	9.5	7.5	*8.5
Vicksburg, Miss	10	9	7.5	*8
Birmingham, Ala	10.5	9.5	*8.5	9
Mobile, Ala	9.5	7.5	*9.5	8.5
Montgomery, Ala	10.5	9.5	*9.5	*9
Atlanta, Ga	10	....	7.5	*9
Augusta, Ga	11	....	7.5	*8.5
Macon, Ga	11	....	7.5	*8.5
Savannah, Ga	10	....	7.5	*8
Jacksonville, Fla	10	9	8.5	8
Miami, Fla	10	9	8.5	8
Pensacola, Fla	9.5	8.5	*9.5	8
Tampa, Fla	10	....	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)
Dealer Prices

	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Chicago, Ill	11.6	9.6	8.5	4.5	10.3
Decatur, Ill	10.9	8.9	8	4.5	9.5
Joliet, Ill	11.9	9.6	8.5	4.5	10.3

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:

Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 24 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.

Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Apr. 13, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)

Dealer Prices

	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Peoria, Ill	10.7	9.2	9.1	4.5	10.1
Quincy, Ill	8.9	7.9	7.9	4.5	10
Indianapolis, Ind	11.6	9.7	9.6	5.5	*9.8
Evansville, Ind	11.4	9.9	7.9	5.5	*9.6
South Bend, Ind	12	10.5	10	5.5	*10.2
Detroit, Mich	11.4	9.9	9.4	4.5	9.6
Grand Rapids, Mich	11.4	9.3	9	4.5	9.6
Saginaw, Mich	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis	12.2	10.7	9.7	5.5	10.6
Milwaukee, Wis	12.1	10.6	10.1	5.5	10.5
La Crosse, Wis	11.9	10.4	9.9	5.5	10.3
Minneapolis-St. Paul	11.9	9.9	9.5	5.5	10.3
Duluth, Minn	12.2	10.7	10.2	5.5	10.6
Mankato, Minn	11.9	10.4	9.5	5.5	10.3
Des Moines, Ia	11.4	9.9	9.4	4.5	*9.8
Davenport, Ia	11.7	10.2	9.7	4.5	*10.1
Mason City, Ia	11.7	10.2	9.7	4.5	*10.1
St. Louis, Mo	10.3	8.8	8.6	*4.5	9.8
Kansas City, Mo	10.4	8.9	7.9	*4.5	9.4
St. Joseph, Mo	11	9	8	*4.5	9.6
Fargo, N. D	12.9	11.4	10.5	5.5	11.3
Huron, S. D	12.3	10.8	10.3	5.5	10.7
Wichita, Kans	10.3	8.2	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill	15.7
Milwaukee, Wis	15.9
Minneapolis, Minn	15.7
St. Louis, Mo	15.2
Kansas City, Mo	14.8
Fargo, N. D	16.7
Huron, S. D	16.1

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
(Prices are base prices before discounts)				
Chicago	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo	13.3	14.3	13.8	1.5
St. Louis, Mo	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minneap'ls	14.2	15.2	13.5	5.5

Fuel Oils T. W.

Chicago	Standard Heater Oil
1-99 gals	9
100-149 gals	8
150 gals. & over	7.5

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals	8.5	8.5
100-149 gals	7.5	7.5
150-399 gals	7.5	7.5
400 gals. & over	7	7

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals	8	8
100-399 gals	7	7
400-749 gals	6	6
750 gals. & over	5.25	5.25

	Stanolex Bunker C Fuel Oil
1-399 gals	6.5
400-999 gals	5.5
1000 gals. & over	4.5

Other Points: Indianapolis	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals	....	*8.7
100 gals. & over	....	*7.7
Detroit		
1-99 gals	....	7.8
100 gals. & over	....	6.8
Milwaukee		
1-99 gals	....	8.7
100 gals. & over	....	7.7
Minneapolis		
1-99 gals	....	8.5
100 gals. & over	....	7.5
St. Louis		
1-99 gals	8.3	7.8
100 gals. & over	7.3	6.8
Kansas City		
1-99 gals	....	7.6
100 gals. & over	....	6.6

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

(*Regular Grade*)

	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	11.4 8.9	6.5	9.8
McCook	12 9.4	6.5	9.5
Norfolk	11.9 10.4	6.5	10.3
North Platte	11 9.9	6.5	10
Scottsbluff	12.4 9.5	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
New Orleans, La	8.75	9.25	8.5	*9
Baton Rouge, La	8.75	9.25	8.5	*9.5
Alexandria, La	8.75	9.25	8.5	*9.5
Lafayette, La	9	9.5	8.5	*9
Lake Charles, La	9	9.5	8.5	*11
Shreveport, La	8.5	9	8.5	*8
Knoxville, Tenn	11.5	12	8.5	12.5
Memphis, Tenn	8.75	9.25	8.5	10.5
Chattanooga, Tenn	10.5	11	8.5	11
Nashville, Tenn	10.5	11	8.5	10
Bristol, Tenn	9.75	10.25	8.5	12
Little Rock, Ark	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Retail	Thriftane *Tank Wagon	Thriftane Retail	Gasoline Taxes
Dallas, Tex	8.5†	10.5	7.5‡	8.5	5.5
Ft. Worth, Tex	8.5††	10.5	7.5‡	9	5.5
Houston, Tex	8.5	12.5	7.5	10.5	5.5
San Antonio, Tex	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex	7	11
Ft. Worth, Tex	7	11
Houston, Tex	8	11
San Antonio, Tex		10

74 Oct. Aviation Gasoline, Clear	Tank Car
FOB Baytown, Tex	8.5

*To all classes of dealers & consumers.
†Less 1c allowance to dealers only.
‡Less 1½c allowance to dealers only.
††Less 2c allowance to dealers only.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex	8.5*	7.5*	5.5
Ft. Worth, Tex	8.5*	7.5*	5.5
Wichita Falls, Tex	8.5	7.5	5.5
Amarillo, Tex	8.5	7.5	5.5
Tyler, Tex	8.5*	7.5*	5.5
El Paso, Tex	9.5	8.5	5.5
San Angelo, Tex	8.5	7.5	5.5
Waco, Tex	8.5*	7*	5.5
Austin, Tex	8.5	7.5	5.5
Houston, Tex	8.5	7.5	5.5
San Antonio, Tex	8.5	7.5	5.5
Port Arthur, Tex	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

Continental Oil Co.

	Conoco Bronz-z-z (*Regular*) †Tank	Demand (*3rd Grade*) Wagon	Gasoline Taxes	Kerosine T.W.
Denver, Col	10	9	5.5	9.5
Grand Junction, Col	12	11	5.5	12
Pueblo, Col	8.5	7.5	5.5	9.5
Casper, Wyo	11.5	10.5	5.5	12
Cheyenne, Wyo	10	9	5.5	9
Billings, Mont	12	11	6.5	12.5
Butte, Mont	11.5	10.5	6.5	13.5
Great Falls, Mont	12	11	6.5	12.5
Helena, Mont	12	11	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida	13.6	12.6	6.5	16.5
Twin Falls, Ida	14.6	13.6	6.5	17
Albuquerque, N. M	10.5	9.5	*7	10
Roswell, N. M	10	9	*7	8.5
Santa Fe, N. M	10.5	9.5	*7.5	10
Ft. Smith, Ark	9	6.25	*7	8
Little Rock, Ark	9.5	7	8	8
Texarkana, Ark	9	7.5	*5.5	7
Muskogee, Okla	7.75	6.75	7	8
Oklahoma City, Okla	7	6	7	8
Tulsa, Okla	8	7	7	8

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state applies within city limits of Ft. Smith, Ark.

†To consumers & dealers.

Discounts: To dealers only—Cheyenne 1.5c on Bronz-z-z & Demand.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Posted Retail	Flight Posted Net Tank Truck	Flight Posted Retail	Gasoline Taxes
San Francisco, Cal	10	14	9	12	4.5
Los Angeles, Cal	9.5	13.5	8.5	11.5	4.5
Fresno, Cal	11	15	10	13	4.5
Phoenix, Ariz	12	16	10	13	6.5
Reno, Nev	12	16	11	14	5.5
Portland, Ore	10.5	14.5	9.5	12.5	6.5
Seattle, Wash	10.5	14.5	9.5	12.5	6.5
Spokane, Wash	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash	10.5	14.5	9.5	12.5	6.5

Std. Aviation 73

	Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal	12.5	4.5	11.5
Los Angeles, Cal	12	4.5	10
Fresno, Cal	13.5	4.5	12.5
Phoenix, Ariz	14.5	6.5	12.5
Reno, Nev	14.5	5.5	13.5
Portland, Ore	13	6.5	13.5
Seattle, Wash	13	6.5	13.5
Spokane, Wash	16	6.5	16.5
Tacoma, Wash	13	6.5	13.5

Discounts:

Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.

Commercial: Retail deliveries, and /or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries, of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

Canada

PRICES ON IMPERIAL OIL, LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	†Kerosine T.W.
Hamilton, Ont	17.5	11	18
Toronto, Ont	17.5	11	18
Brandon, Man	21	10	23
Winnipeg, Man	20.5	10	22.5
Regina, Sask	18	10	20
Saskatoon, Sask	20.8	10	22.8
Edmonton, Alta	18.9	10	20.9
Calgary, Alta	16	10	18
Vancouver, B. C	15	10	24
Montreal, Que	17	11	17.5
St. John, N. B	16.5	13	19
Halifax, N. S	16.5	13	19

*Includes 3c Federal, and Provincial taxes.
†To divided & undivided dealers.

Tank Wagon Price Changes

(These changes have been made in price tables)

Atlantic Refining—Kerosine:
Brunswick & Jacksonville up 0.4c Mar. 28.

Socony-Vacuum—Fuel Oils:
Corrections:
Mobilfuel Diesel: Burlington t. c. & t. w. prices have been 6.4c and 8.4c, respectively, since Mar. 27.
Mobilheat Fuel: Providence t. w. price 7.5c on & since Mar. 27.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Mar. 26, '42)

Bradford-Allegany	$3.00
Southwest Penna.	$2.65
Eureka (West Va.)	$2.59
Corning, O. (May 27, '41)	$1.31

Posted by The Pennzoil Co. (Mar. 26, '41)

National Transit	$2.93*

Posted by Valvoline Pipe Lines (Mar. 26, '42)

Bradford (Elk & McKean Counties, Pa.)	$3.00
Warren, Forest, Venango, Clarion & Butler Counties, Pa.	$2.93
Alleghany, Beaver, Washington & Greene Counties, Pa.	$2.65
West Virginia	$2.59
Southeastern Ohio	$2.55

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 27, '41)

Midland, Midland County	$1.44
Sherman	$1.39

Posted by Simrall Corp. (May 27, '41)

Greendale, Porter, Vernon, Crystal & Wise	$1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type)	$1.42
Freeman, Redding, Lincoln & Winterfield	$1.39
West Branch-Arenac	$1.24
Hamilton-Grout	$1.29

Posted by Sohio Corp. (Mich. Div.)

Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41)	$1.45
Trenton crude, Monroe Co. (June 2, '41)	$1.39

Posted by Bay Pipe Line Corp. (May 27, '41)

Saginaw & Wise	$1.44	Buckeye, Bentley & Kawkawlin	$1.42
Clare	$1.11	Adams (June 1, '41)	$1.27

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)

Illinois Basin, including Griffin pool	$1.37
Carmi, Storms, Ill. area	$1.32
Birk City, Ky. area	$1.32
Corydon, Ky. area, Henderson	$1.32

Posted by Ohio Oil Co. (May 21, '41)

Illinois Basin	$1.37
Eastern Ill. & Western Ind.	$1.22

Posted by Carter Oil Co. (May 21, '41)

Loudon, Fayette Co. Ill.	$1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)

Southern Illinois	$1.37

Posted by Ashland Oil & Transp. Co.

Somerset oil in Ash. Lines, Ky.; (June 19, '41)			
Big Sandy River	$1.38	Kentucky River	$1.43

Posted by Ownesboro-Ashland Co.

Owensboro, Ky. area (May 21, '41)	$1.32

Posted by S. O. Ohio (Sept. 1, '41)

Lima, Ohio	$1.25
Cleveland, Lodi & Chatham (O.) areas	$1.30

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3
Below 21	$0.85	$0.75	$0.81
21-21.9	.87	.78	.83
22-22.9	.89	.81	.85
23-23.9	.91	.84	.87
24-24.9	.93	.87	.89
25-25.9	.95	.90	.91
26-26.9	.97	.93	.93
27-27.9	.99	.96	.95
28-28.9	1.01	.99	.97
29-29.9	1.03	1.02	.99
30-30.9	1.05	1.05	1.01
31-31.9	1.07	1.07	1.03
32-32.9	1.09	1.09	1.05
33-33.9	1.11	1.11	1.07
34-34.9	1.13	1.13	1.09
35-35.9	1.15	1.15	1.11
36-36.9	1.17	1.17	1.13
37-37.9	1.19	1.19	1.15
38-38.9	1.21	1.21	1.17
39-39.9	1.23	1.23	1.19
40 & above	1.25	1.25	1.21

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, in Okla. & Kans. beginning with 28-28.9.

No. 2: **Carter** May 20, '41 in Okla. **Shell** Dec. 5, '41 in Okla. & Kans. **Magnolia** May 21, '41 in Okla.

No. 3: All Dec. 11, '41: **Stanolind & Continental** in N. Tex. **Sinclair-Prairie** in N. Central Tex. **Magnolia & Texaco** in N. & N. Central Tex. **Continental, Magnolia & Sinclair-Prairie** schedules begin with Below 29 at $0.97. **Texaco** schedule begins with 28-28.9.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.

(May 21, '41, except Panhandle, Tex. July 9, '41 and W. Central Texas Dec. 11, '41)

Gravity	Refugio	Texas Gulf Coast	Miran-do	Ana-huac	Dick-inson	East Central Texas	West Central Texas	Pan-handle, Texas	W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	.....	.....	$0.73	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	.95	.....	.....	.75	.72	.82
21-21.9	1.12	1.10	1.07	1.02	.97	.....	.....	.77	.74	.84
22-22.9	1.14	1.12	1.09	1.04	.99	.....	.....	.79	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	.....	.....	.81	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	.....	.....	.83	.80	.90
25 & Above	.....	.....	.....	.....	.....	.....	.....	.....	.....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.91	.85	.82	.....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.93	.87	.84	.....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.95	.89	.86	.....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.97	.91	.88	.....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.99	.93	.90	.....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	1.01	.95	.92	.....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.03	.97	.94	.....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.05	.99	.96	.....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.07	1.01	.98	.....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.09	1.03	1.00	.....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.11	1.05	1.02	.....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.13	1.07	1.04	.....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.15	1.09	1.06	.....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.17	1.11	1.08	.....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.19	1.13	1.10	.....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.21	1.15	1.12	.....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gilloc, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell-Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, Texas: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

West Texas & New Mexico: Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe	$1.43	**East Texas & Flag Lake**	$1.25	**Clark, Zoboroski**	$1.14
Tomball	1.40	**Flour Bluff, E. Flour Bluff**	1.33	**Alice, Benavides (N. Sweden), Sun.**	1.35
Van	1.08	**Salt Flat, N. Salt Flat**	1.14	**Ben Bolt, Clark-Muil, Tom Graham**	1.35
Talco	0.79	**Darst Creek, Hilbig, Carroll**	1.14	**Yates (Pecos)**	0.95
				La Rosa	1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—(July 9, '41)—Same as Humble except Magnolia begins with below 29 at $0.91.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos., and in Pecos & Andrews Cos. beginning Apr. 1, '42—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.88 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

Mirando, Tex.—Same as Humble.

East Texas	$1.25	**Lytton Springs**	$1.17
Darst Creek	1.14	**Cleveland-Liberty Co.**	1.26
Luling	1.05	**Tomball**	1.40
Talco	.79		

SINCLAIR-PRAIRIE OIL MARKETING CO.

Texas Panhandle—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.

West Texas & New Mexico—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—(May 21, '41)—Same as Humble.

Mexia District, Texas—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.

East Texas—(May 21, '41) $1.25

Long Lake, Texas—(May 21, '41) $1.23

Chapel Hill (Washington Co.) Tex.:

Below 50 grav. (Jan. 20, '42)	$1.18
50 grav. & above (Feb. 2, '42)	$1.25

STANOLIND OIL PURCHASING CO.

(May 21, '41)

Clinton, Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.

E. Texas..$1.25 **Satsuma & Tomball, Tex.**..$1.40

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble West Texas except Stanolind begins with Below 26 at $0.82.

Jay Welder (Calhoun Co., Tex.)—Nov. 14, '41—Same as Humble Anahuac.

THE TEXAS CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9 at $1.03.

W. Texas & Lea Co., N. M.—Same as Humble except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.36.

Duval, Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.26.

East Texas	$1.25	**Conroe, Tex.**	$1.43
Darst Creek, Tex.	$1.14	**Hockley & Cochran Cos., Tex.**	.87

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—(Dec. 11, '41)—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.89.

East Texas	$1.25
Livingston field, Polk Co., Tex.	$1.25
Pecos Co., Texas (except Yates Shallow Pool)	.95
Pecos Co., Tex., Yates Shallow Pool	.82
Mercy field, San Jacinto Co., Tex. (Feb. 27, '42)	1.25

CONTINENTAL OIL CO.

Carson & Hutchinson Cos., Tex.—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

Mirando, Tex.—(July 1, '41)—Same as Humble.

Wade City & Clara Driscoll, Tex.—(July 1, '41)—Same as Humble Refugio.

Alfred & Magnolia City, Tex.—(May 21, '41), $1.35

Eddy Co., N. M.—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

PAN AMERICAN PRODUCTION CO.

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan. Am. begins with Below 21 at $0.95.

East Texas	$1.25
Cayuga, Tex.	.90
Goodrich, Tex. (Dec. 1, '41)	1.20

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S. O. California, May 23, 1941

All gravities above those quoted take highest price offered in that field

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Waseo	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Gravity
14-14.9	....	$0.68	....	....	$0.71	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	....	....	....	$0.73	$0.73	$0.73	14-14.9
15-15.9	....	.71	....	....	.75	$0.76	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	15-15.9
16-16.9	....	.74	$0.79	....	.79	.79	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	16-16.9
17-17.9	....	.78	.82	....	.82	.82	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	17-17.9
18-18.9	$0.80	.82	.86	....	.86	.85	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	18-18.9
19-19.9	.84	.86	.90	....	.89	.88	.85	....	.83	.82	.85	.77	....	....	....	....	$0.73	.81	.84	.75	19-19.9
20-20.9	.88	.90	.94	....	.93	.92	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	20-20.9
21-21.9	.92	.94	.98	....	.96	.95	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	21-21.9
22-22.9	.96	.98	1.02	$0.88	.99	.98	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.94	$0.99	....	....	....	.90	1.03	.99	.89	24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	28-28.9
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	29-29.9
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	Elwood	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	30-30.9
31-31.9	....	....	....	....	....	1.24	....	1.25	....	Terrace	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	31-31.9
32-32.9	....	....	....	....	....	....	....	1.29	....	F.o.b. Ship	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	32-32.9
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.22	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	33-33.9
34-34.9	Kettleman Hills			....	....	....	....	1.36	....	1.25	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	34-34.9
35-35.9	....	$1.23	....	....	....	....	....	....	....	1.28	....	1.35	....	....	1.16	1.22	....	....	....	....	35-35.9
36-36.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	36-36.9
37-37.9	....	1.29	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	37-37.9
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	38-38.9
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	39-39.9
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	40-40.9

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
Wheeler Ridge: 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9, $0.73.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al.	De Soto, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & above	$1.08	$1.18	$1.20	$1.30	$1.30	....
39-39.9	1.06	1.16	1.18	1.28	1.28	....
38-38.9	1.04	1.14	1.16	1.26	1.26	....
37-37.9	1.02	1.12	1.14	1.24	1.24	....
36-36.9	1.00	1.10	1.12	1.22	1.22	....
35-35.9	.98	1.08	1.10	1.20	1.20	....
35 & above	....	....	....	....	....	$1.36
34-34.9	.96	1.06	1.08	1.18	1.18	1.34
33-33.9	.94	1.04	1.06	1.16	1.16	1.32
32-32.9	.92	1.02	1.04	1.14	1.14	1.30
31-31.9	.90	1.00	1.02	1.12	1.12	1.28
30 & below	....	....	....	....	....	1.26
30-30.9	.88	.98	1.00	1.10	1.10	....
29-29.9	.86	.96	.98	1.08	1.08	....
28-28.9	.84	.94	.96	1.06	1.06	....
27-27.9	.82	.92	.94	1.04	1.04	....
26-26.9	.80	.90	.92	1.02	1.02	....
25-25.9	.78	.88	.90	1.00	1.00	....
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	.88	....	.98	....
23-23.9	.74	....	.86	....	.96	....
22-22.9	.72	....	.84	....	.94	....
21-21.9	.70	....	.82	....	.92	....
Below 21	.68	....	.80	....	.90	....

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

De Soto schedule includes Sabine, Fouke, Homer, Miller Co., Nebo & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake) ending with Below 25 at $0.88; Anse La Butte (Aug. 1, '41); Caddo (Oct. 15, 1941).

Bunkie schedule includes Eola, Olla, & South Olla.

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie Distillates (Sour) $1.15
Heavy Smackover Crude ..... .83
Cotton Valley Distillate (Sept. 1, '41) 1.40
Cotton Valley (Holloway Sand Crude) 1.25
Lisbon Distillate 1.20

(Continued next column)

LOUISIANA-ARKANSAS *(Cont'd)*

Posted by Shell Oil Co., Inc. (May 20, '41)

Gravity	Iowa	Roanoke	Gibson
Below 20	$0.99	$0.94	$0.89
20-20.9	1.01	.96	.91
21-21.9	1.03	.98	.93
22-22.9	1.05	1.00	.95
23-23.9	1.07	1.02	.97
24-24.9	1.09	1.04	.99
25-25.9	1.11	1.06	1.01
26-26.9	1.13	1.08	1.03
27-27.9	1.15	1.10	1.05
28-28.9	1.17	1.12	1.07
29-29.9	1.19	1.14	1.09
30-30.9	1.21	1.16	1.11
31-31.9	1.23	1.18	1.13
32-32.9	1.25	1.20	1.15
33-33.9	1.27	1.22	1.17
34 & above	1.29	1.24	1.19

Iowa schedule includes Black Bayou & White Castle La. fields.

Roanoke schedule includes Chalkley, La. field.

Gibson schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

Happytown field, St. Martin Par., La. $1.15

Posted by Arkansas Fuel Oil Corp.

Urania, La. (May 22, '41) $1.15

Posted by Continental Oil Co. (May 21, '41)

Tepetate, La. $1.18
Ville Platte, La. 1.20
Lake Arthur, La. 1.18
Ritchie, La. (Sept. 1, '41) 1.08

Abbeville, La.

Below 36 $1.07	37-37.9 $1.11	39-39.9 $1.15
36-36.9 1.09	38-38.9 1.13	40 & above 1.17

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (July 16, '41)

(Prices FOB producer's tankage)

33-33.9 $1.35	44-44.9 1.57	55-55.9 $1.79
34-34.9 1.37	45-45.9 1.59	56-56.9 1.81
35-35.9 1.39	46-46.9 1.61	57-57.9 1.83
36-36.9 1.41	47-47.9 1.63	58-58.9 1.85
37-37.9 1.43	48-48.9 1.65	59-59.9 1.87
38-38.9 1.45	49-49.9 1.67	60-60.9 1.89
39-39.9 1.47	50-50.9 1.69	61-61.9 1.91
40-40.9 1.49	51-51.9 1.71	62-62.9 1.93
41-41.9 1.51	52-52.9 1.73	63-63.9 1.95
42-42.9 1.53	53-53.9 1.75	64 & over 1.97
43-43.9 1.55	54-54.9 1.77	

Absorption Gasoline (July 16, '41)

90% Rec., 20 lb. Reid v.p. $2.28
90% Rec. 17 lb. Reid v.p. 2.44

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Wyoming:		Wyoming:	
Tensleep Crude	$0.6785	Grass Creek Light	$1.00
Frannie Light	.70	Grass Creek Heavy	.50
Frannie Heavy	.47	Elk Basin	1.00
Hamilton Dome	.45	Iles, Colo.	1.07

Posted by Ohio Oil Co. (May 20, '41)

Elk Basin, Wyo. $1.00
Grass Creek, Wyo., Light 1.00
Rock Creek, Wyo. 1.15
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Continental Oil Co. (May 21, '41)

Ft. Collins & Wellington, Col.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Canon City & Florence, Col. $1.05	Big Muddy, Wyo., (May 30, '41) $1.08
Cat Creek, Mont. .. 1.15	Lance Creek, Wyo., (July 1, '41) $1.12

Posted by Independent Pipe Line Co. (Aug. 1, '41)

Falls City, Neb., field price $0.90
Falls City, Neb., loaded in tank cars 0.95
Shubert, Neb., loaded in tank cars 0.97

SOUTHEASTERN FIELDS

Posted by Allied Pipe Line Corp.

Tinsley (Miss.) Crude (Oct. 16, '41)

24-24.9 ..... $0.745	32-32.9 ..... $0.905
25-25.9 ..... .765	33-33.9 ..... .925
26-26.9 ..... .785	34-34.9 ..... .945
27-27.9 ..... .805	35-35.9 ..... .965
28-28.9 ..... .825	36-36.9 ..... .985
29-29.9 ..... .845	37-37.9 ..... 1.005
30-30.9 ..... .865	38-38.9 ..... 1.025
31-31.9 ..... .885	39-39.9 ..... 1.045
	40 & above 1.065

Pickens (Miss.) Crude (Dec. 16, '41)

24-24.9 ..... $0.685	32-32.9 ..... $0.845
25-25.9 ..... .705	33-33.9 ..... .865
26-26.9 ..... .725	34-34.9 ..... .885
27-27.9 ..... .745	35-35.9 ..... .905
28-28.9 ..... .765	36-36.9 ..... .925
29-29.9 ..... .785	37-37.9 ..... .945
30-30.9 ..... .805	38-38.9 ..... .965
31-31.9 ..... .825	39-39.9 ..... .985
	40 & above 1.005

CLASSIFIED

Address Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

Situations Open

Salesman to sell plastic spouts for oil bottles to Service Stations and other outlets. Commission arrangement. Write fully, giving territory covered and lines you are handling. Box No. 88.

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3352
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Advertisements set in special type or with border—$5.00 per column inch.

Copy must reach us not later than Saturday preceding date of issue.

All advertisements carried on this page are payable in advance.

No agency commission or cash discounts on classified Advertisements.

These new rates were effective February 25, 1942

For Sale

1933 Ford V-8 chassis, with Davis 3-compartment, 500-gallon tank. Snyder Oil Co., Orville, Ohio.

2136—Gallon Butler Trailow Trailer. Four Compartments with 2" manifold located at the rear. Equipped with dual 8¼" x 20" tires, fair condition. Priced to sell.

Cushing Refining & Gasoline Company
Cushing, Oklahoma

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Washington, D. C.

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ADVERTISERS' INDEX

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Universal Oil Products Co.
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Wilson & Bennett Mfg. Co. 27

PERSONALS

Harry C. Wiess of Houston, president of Humble Oil & Refining Co., and **W. M. Griffith** of Sinton, vice-president and manager of Plymouth Oil Co., will be given plaques for outstanding work in the oil industry at the fifth annual South Texas Oilmen's banquet at 8 p.m., April 17, at the Gunter Hotel, San Antonio.

D. E. Blackburn of Victoria, president of the South Texas Chamber of Commerce, is banquet sponsor, and **Al Buchanan,** San Antonio oil man, will preside. Speakers will be former **Gov. W. P. Hobby** of Houston, **Frank Carothers,** Houston supply company executive, and **Tom Graham,** Corpus Christi, oil man.

* * *

Harvey Wilson, manager of the Star Oil Co.'s Lapeer, Mich., branch, who broke his back in an automobile accident last November, is still wearing a steel brace but is back on the job.

Mr. Wilson is a son of **Jesse F. Wilson,** president of Michigan Petroleum Assn.

* * *

W. E. McDonald, Portland, Ore., district manager for Shell Oil Co., has been named Oregon chairman for western region committee on protection of petroleum facilities.

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H. L. Painter

H. L. Painter, Los Angeles, Union Oil Co., has been appointed sales manager for the company in Central America, according to announcement by **A. C. Stewart,** vice-president and sales manager. Mr. Painter, formerly in charge of industrial sales promotion, will establish headquarters at Balboa, Canal Zone.

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Jobber J. B. Searle of Freeland, Mich., recently joined the Army. Plans for operation of the business during Mr. Searle's absence have not been announced.

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J. R. Nicholson, Vancouver, deputy controller of supplies in Canada's department of Munitions and Supply, has been appointed manager of Polymer Corp., Ltd., the new government-controlled company formed for purpose of making synthetic rubber by the Buna process.

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Promotion of **John C. Sample** from assistant marketing manager to the post of general sales manager is announced by **A. H. DeFriest,** vice-president and director of marketing for General Petroleum.

C. G. Eartman, southern California resident manager, has been promoted to retail sales manager and **H. W. Taylor,** manager of lubricants and specialties sales, becomes industrial sales manager.

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E. C. Decker, Shell's Chicago retail manager, recently took his physical examination for an Air Corps commission, having completed the other preliminaries. He's expecting his call any day.

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When **Dr. M. G. Paulus,** Whiting, Ind., vice-president in charge of manufacturing for Indiana Standard, presented a gold watch from the board of directors to **David J. Paskwietz** earlier this month, he honored a man who has worked for 50 years at the company's Whiting refinery. Mr. Paskwietz is now foreman of all filter, compounding and cold-settling plants at Whiting.

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Between business sessions at the Michigan Petroleum Assn. meeting **(see story p. 15).** oil men played bridge and relaxed at the Detroit Oil Men's Club. This group, probably discussing priorities and rationing, includes (left to right) **Allen Moyer,** Detroit, Ohio Oil Co.; **I. B. Dworman,** Detroit, Red Indian Oil Co.; **Neil Staebler,** Ann Arbor, Staebler-Kempf Oil Co.; **Al Dubuisson,** South Haven, Wolverine Service Stations; **Paul Kempf,** Ann Arbor, Staebler-Kempf Oil Co.; and **George Eppler,** Auburn Heights, Auburn Heights Lumber and Coal Co.

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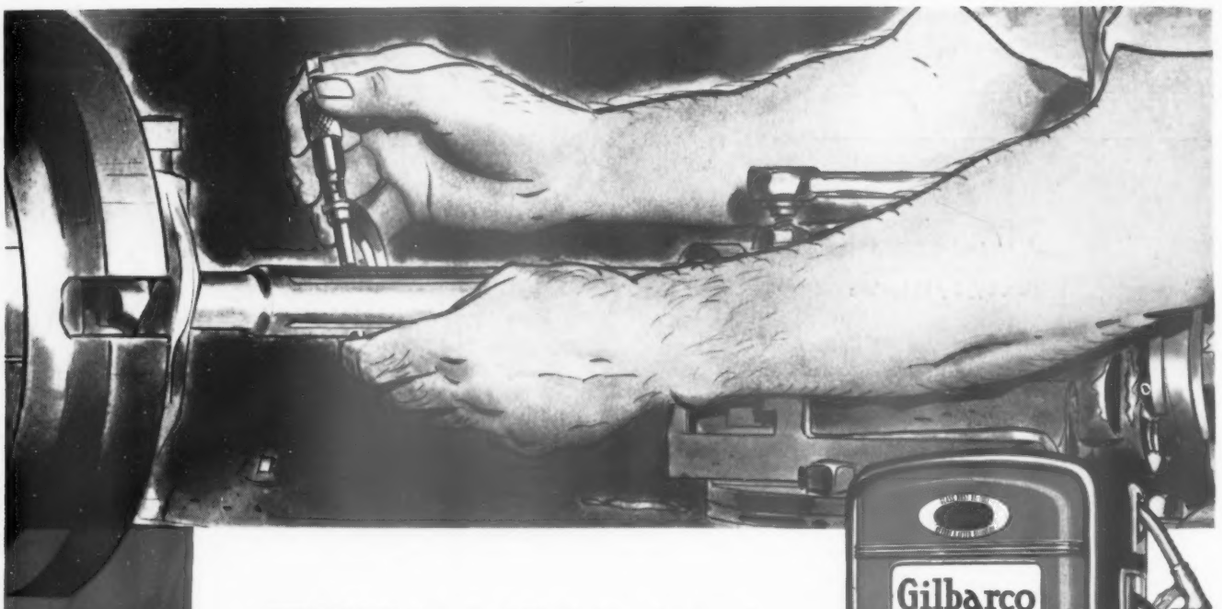

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